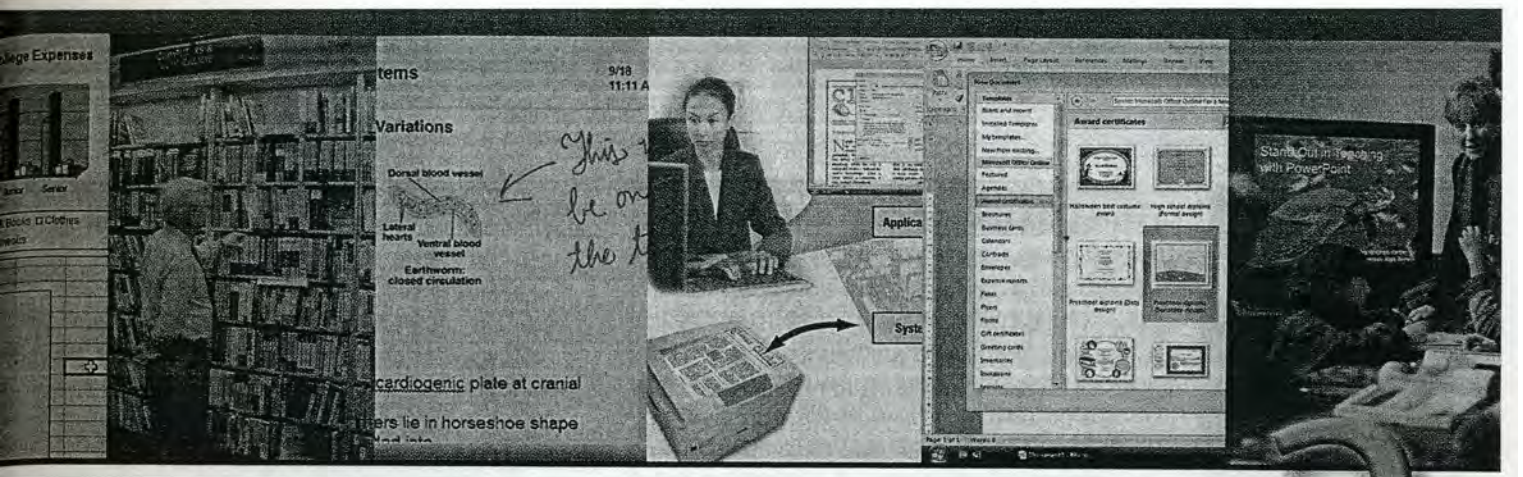


Application Productivity Tools for Educators

3

Objectives

After completing this chapter, you will be able to do the following:
[ISTE NETS-T Standards 1 b; 2 a-d; 3 a, d; 4 b; 5 a-c]

- Explain the role of an operating system and list the main operating systems used on today's computers
- Define and describe a user interface and a graphical user interface
- Identify the important features of widely used software applications
- Describe the advantages of software suites
- Explain how to create documents
- Discuss why the use of video authoring and editing software is important for K-12 schools
- List and describe learning aids and support tools that help you use and learn software applications
- Explain how to work with different versions of software applications

An essential aspect of building computer literacy is learning about software, which is the series of instructions that tell computer hardware how to perform tasks. Having a solid understanding of software — especially application software — will help you comprehend how administrators, teachers, students, and other individuals use personal computers in today's society. It also will help you use your computer and other technologies to be more productive, organized, and well informed.

Application software such as word processing, spreadsheet, project planning, and e-mail programs can help you perform tasks such as creating documents, visualizing data, managing projects, and communicating with others. Before discussing various software applications used by teachers and students, however, this chapter provides a basic overview of the operating system and the user interface used on both Macs and PCs. The user interface controls how you work with any software, including application software.

Understanding application software can help advance your personal and professional goals by helping you manage student records, teach students with different academic needs, and work more productively. This chapter introduces you to the learning aids and tools available to help you and your students learn to use software applications. You can refer back to this chapter as you learn more about how computers are used today and how they can help you in your teaching career.

Web Info

For more information about Windows, visit the Teachers Discovering Computers Web site, (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click Windows.

The Operating System

As with most computer users, you are probably somewhat familiar with application software. To use any application software, however, your computer must be running another type of software — an operating system.

THE ROLE OF THE OPERATING SYSTEM

Software can be categorized into two types: system software and application software. **System software** consists of programs that control the operations of the computer and its devices. System software serves as the interface between you (the user), your application software, and your computer's hardware (Figure 3-1). One type of system software, the **operating system**, contains instructions that coordinate all of the activities of the hardware devices in a computer. The operating system also contains instructions that allow you to run application software.

Figure 3-1 System software is the interface between the user, the application software, and the computer's hardware. In this example, a user instructs the word processing software to print a document, the word processing software sends the print instructions to the system software, and the system software sends the print instructions to the printer.

Before either a Mac or a PC can run any application software, the operating system must be loaded from the hard disk into the computer's memory. Each time you start your computer, the operating system is loaded, or copied, into memory from the computer's hard disk. After the operating system is loaded, it tells the computer how to perform functions, such as processing program instructions or transferring data between input and output devices and memory. The operating system, which remains in memory while the computer is running, allows you to communicate with the computer and other software, such as word processors, grade books, and other application programs. The operating system continues to run until the computer is turned off.

USING DIFFERENT OPERATING SYSTEMS

Each new release of an operating system contains new features that make computers more powerful and easy to use. In addition, the newest operating systems provide enhanced integration with the World Wide Web and increase the multimedia capabilities of computers. Due to budget constraints and other factors, however, schools, businesses, and home users do not always upgrade their computers every time a new version of an operating system is released. As a result, a number of different versions of operating systems currently are running on school, business, and home computers.

MICROSOFT WINDOWS Microsoft Windows, which often is referred to simply as Windows with a capital W, is the most used operating system in the world. A brief summary of the versions of Microsoft Windows that are in use today follows.

WINDOWS XP Windows XP, released in late 2001 and upgraded in 2004, is a fast, reliable Windows operating system, providing quicker startup, better performance, increased security, and a simpler visual look than previous Windows versions. Windows XP is available in four main editions: Home Edition, Professional (Figure 3-2a), Media Center Edition, and Tablet PC Edition.

WINDOWS VISTA Windows Vista, the successor to Windows XP and released in 2007, is Microsoft's fastest, most reliable, and most efficient operating system to date, offering quicker application start up, built-in diagnostics, automatic recovery, improved security, and enhanced searching and organizing capabilities (Figure 3-2b). Windows Vista is available in several editions — three are discussed next:

- **Windows Vista Home Basic** is designed for basic home use. It includes the Windows Vista Basic interface and allows users to do each of the following easily: search for files; protect their computer from unauthorized intruders and unwanted programs; and set parental controls to monitor the use of games, the Internet, instant messaging, and other communications programs.
- **Windows Vista Home Premium** includes all the capabilities of Windows Vista Home Basic and also offers the Windows Aero interface. It also provides tools to create DVDs and edit movies, record and watch television shows, connect to a game console, securely connect to Wi-Fi networks, work with a Tablet PC, and quickly view messages on a powered-off, specially equipped notebook computer.
- **Windows Vista Ultimate** includes all features of Windows Vista Home Premium and provides additional features designed to make mobile users' computers more secure and easier to network.

WINDOWS 7 Windows 7, released in 2009, is the successor to Windows Vista. It is a significant upgrade to the Windows operating system. Enhancements includes an improved taskbar and full-screen previews. Other improvements include a new Jump List feature that allows you to quickly reach the files you have been working with, new desktop enhancements, an improved search feature, Internet Explorer 8, better device management, and a new HomeGroup feature that makes it much easier to connect the computers in your home to your wireless network.

MACINTOSH OPERATING SYSTEM OR MAC OS Most users of Macintosh computers use one of two versions of Mac OS.

- **Mac OS, version 9.1** is used on older Apple and Macintosh school computers.
- **Mac OS X** was released in 2001, upgraded in 2004, and again in 2007. It is a significant upgrade to the Macintosh operating system in both appearance and use and includes over 300 features. Included with the latest version, called Leopard (see Figure 3-5 on page 140), are new and enhanced features like Time Machine, Mail 3, iChat, Spaces, Dashboard, and Spotlight to name just a few.

OTHER OPERATING SYSTEMS Two other common operating systems are UNIX and Linux.

- UNIX is a multitasking operating system developed for mainframe computers in the early 1970s by scientists at Bell

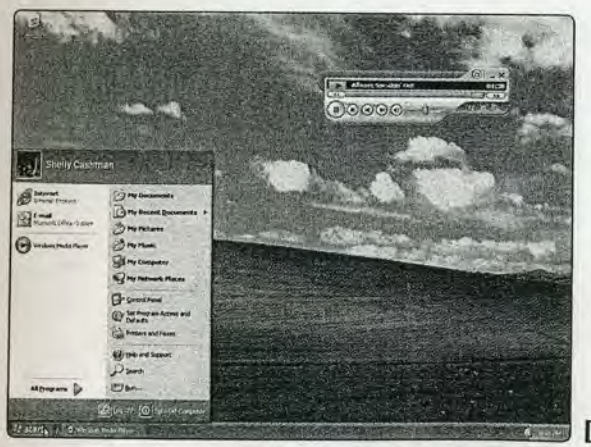
Web Info

For more information about Mac OS, visit the Teachers Discovering Computers Web site, (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click Mac OS.

FAQ

What programs are included with Windows Vista?

Every version of Windows Vista includes Calculator, Notepad, WordPad, Internet Explorer, Windows Photo, Windows Mail, Windows Calendar, and a variety of games.


[a]

[b]

Figure 3-2 Figure 3-2a shows Windows XP and Figure 3-2b shows Windows Vista Ultimate.

Laboratories, a subsidiary of AT&T. Today, versions of UNIX are available for computers of all sizes.

- **Linux** is a popular, multitasking UNIX-based operating system that is one of the faster growing operating systems in use today. Unlike Windows and Mac OS, both of which are proprietary systems, Linux is **open source software**, which means its code is available free to the public.

FAQ

Can I simply turn the computer off when I am finished?

No! You must use the operating system's shut-down procedure so various processes are closed in sequence and items in memory are released properly.

THE ROLE OF THE USER INTERFACE

All software, including the operating system, is designed to communicate with the user in a certain way, through a user interface. A **user interface** controls how you enter data or instructions (input) and how information is presented on the screen (output).

One of the more common user interfaces is a graphical user interface. A **graphical user interface**, or **GUI** (pronounced gooey), combines text, graphics, and other visual cues to make software easier to use. In 1984, Apple introduced a new operating system based on a graphical user interface. Recognizing the value of this easy-to-use interface, many software companies followed suit by developing software that incorporates a graphical user interface.

Application Software

Recall that **application software** consists of programs designed to perform specific tasks for users. Application software, also called **application programs**, can be used for the following purposes:

- As a productivity/business tool
- Assisting with graphics and multimedia projects
- Supporting school and professional activities
- Helping with home and personal activities
- Facilitating communications

The table in Figure 3-3 categorizes popular types of application software by their general use. These five categories are not all-inclusive nor are they mutually exclusive; for example, e-mail can support productivity, a software suite can include Web page authoring tools, and tax preparation software can be used by a business. In the course of a day, week, or month, you are likely to find yourself using software from many of these categories, whether you are at school, home, or work. Even though you may not use all of the applications, you should at least be familiar with their capabilities.

Communications applications, such as e-mail, Web browsers, and others, were discussed in Chapter 2. This chapter gives a general overview of each of the other four categories and provides specific examples of applications in each category that are used on both PCs and Macs.

A wide variety of application software, such as word processing, is available as packaged software that can be purchased from software vendors in retail stores or on

Figure 3-3 The five major categories of popular application software. You likely will use software from more than one of these categories.

Categories of Application Software

Productivity/ Business	Graphic Design/ Multimedia	School	Home/Personal	Communications
• Word Processing	• Desktop Publishing	• School/Student Management	• Personal Finance	• E-Mail
• Spreadsheet	• Paint/Image Editing	• Grade Book	• Tax Preparation	• Web Browser
• Presentation Graphics	• Multimedia Authoring	• Education/Reference	• Legal	• Chat Rooms
• Database	• Web Page Authoring	• Special Needs	• Entertainment	• Newsgroups
• Personal Information Management		• Note Taking		• Instant Messaging
• Software Suite				• Blogs
				• Wikis

the Web. A particular software product, such as Microsoft Word, often is called a **software package**. Many application software packages also are available as shareware, freeware, and public-domain software; these packages, however, usually have fewer capabilities than retail software packages.

STARTING A SOFTWARE APPLICATION

To use application software, you must instruct the operating system to start the program. Both Mac OS and Microsoft Windows use the concept of a desktop to make the computer easier to use. The **desktop** is an on-screen work area that uses common graphical elements such as icons, buttons, windows, menus, and dialog boxes to make it easy and intuitive for users to interact with the computer. Figure 3-4 illustrates how to start and then interact with the Paint program on a PC using Microsoft Windows Vista.

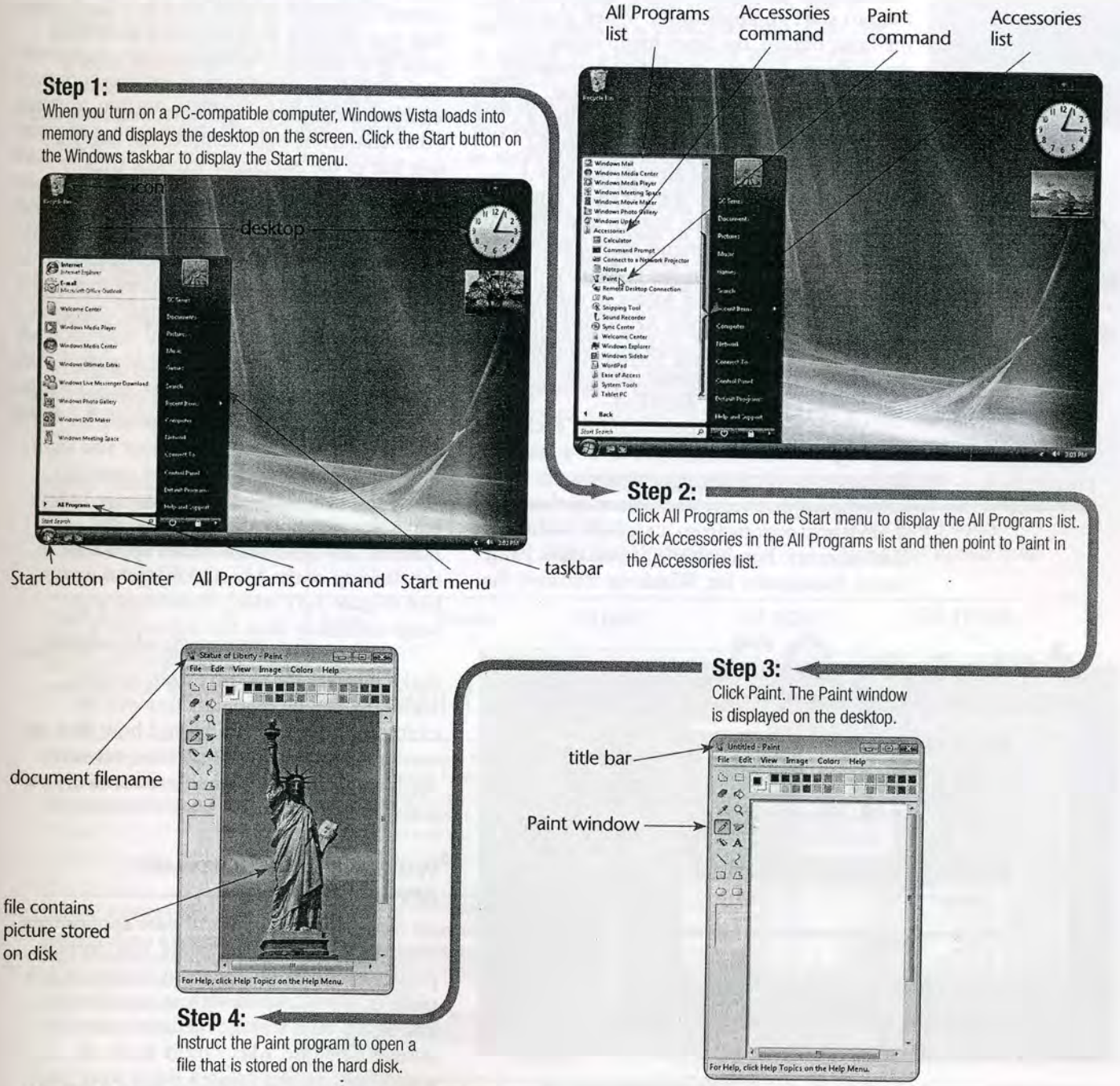

Step 1:
When you turn on a PC-compatible computer, Windows Vista loads into memory and displays the desktop on the screen. Click the Start button on the Windows taskbar to display the Start menu.
icon
desktop
Start button
pointer
All Programs command
Start menu
taskbar
All Programs list
Accessories command
Paint command
Accessories list
Step 2:
Click All Programs on the Start menu to display the All Programs list. Click Accessories in the All Programs list and then point to Paint in the Accessories list.
Step 3:
Click Paint. The Paint window is displayed on the desktop.
title bar
Paint window
Step 4:
Instruct the Paint program to open a file that is stored on the hard disk.
document filename
file contains picture stored on disk

Figure 3-4 How to start and interact with an application.

Integration Strategies

To learn more about how to integrate content-specific software applications, such as Kidspiration, Tessellation Exploration, and Thinkology, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, and then click Software Corner.

An **icon** is a small image that represents a program, an instruction, or some other object. A **button** is a graphical element (usually a rectangular or circular shape) that when selected, causes a specific action to take place. Typically you click a button using a pointing device, such as a mouse, to select it. You also can select a button using the keyboard. Icons, text, or a combination of both are used to identify buttons.

The Windows desktop contains a Start button in its lower-left corner, which can be used to start an application. When you click the Start button, the Start menu opens on the desktop. A **menu** is a list of commands from which you can make a selection. **Commands** are instructions that cause a computer program to perform a specific action. For example, as shown in Steps 1 and 2 of Figure 3-4 on the previous page, when you click the Start button and click the All Programs command on the Start menu, the All Programs list is displayed. Clicking the Accessories folder in the All Programs list displays the Accessories list. As shown in the Accessories list, Windows includes several applications, such as Calculator, Paint, and WordPad.

You can start an application by clicking its program name on a menu or in a list. Doing so instructs the operating system to start the application by transferring the program's instructions from a storage medium into memory. For example, if you click Paint in the Accessories list, Windows transfers the program instructions from the computer's hard disk into memory.

Once started, an application is displayed in a window on the desktop. A **window** is a rectangular area of the screen that is used to display a program, data, and/or information (see Step 3 of Figure 3-4 on the previous page). The top of a window has a **title bar**, which is a horizontal space that contains the window's name.

Any document you are working on or you have saved exists as a file. A **file** is a named collection of data, such as a document that you create, a program, or a set of data used by a program. To distinguish among various files, you assign each file a **filename**, which is a unique set of letters, numbers, and other characters that identifies the file. The title bar of the document window usually displays a document's filename, as shown in Step 4 of Figure 3-4 on the previous page. Also shown in Step 4 of Figure 3-4 is the contents of the file Statue of Liberty displayed in the Paint window. The Statue of Liberty file contains a photograph created with a digital camera.

One of the major advantages of a graphical user interface is that elements such as icons, buttons, and menus, usually are common across applications. After you learn the purpose and functionality of these elements, you can apply that knowledge to several software applications. Many of the features just described also are applicable to the desktop of the Macintosh operating system (Figure 3-5), which is arranged somewhat differently than the desktop of a PC.

The features of a graphical user interface make it easier for users to communicate with a personal computer. You will see examples of these features and how they are used as you learn about various software applications used by schools, businesses, and individuals.

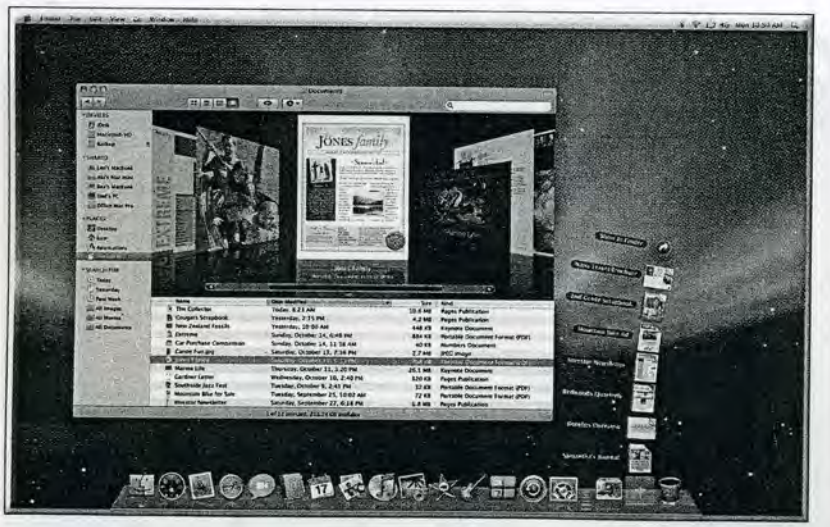


Figure 3-5 The Mac OS X desktop contains features similar to a PC desktop, however, the arrangement of the features is different.

WORKING WITH SOFTWARE APPLICATIONS

While using many software applications, you have the ability to create, edit, format, print, and save documents. A **document** is a piece of work created with an application and saved on a storage medium with a unique filename. Many users think of documents as files created using word processing software. To a computer, however, a

document is nothing more than a collection of characters, so a spreadsheet or graphic is as much a document as a letter or report. During the process of developing a document, you likely will switch back and forth among the following activities.

Creating involves developing the document by entering text or numbers, designing graphics, and performing other tasks using an input device, such as a keyboard or mouse. If you design a map using the graphics tools in Paint, for example, you are creating a document.

Editing is the process of making changes to the document's existing content. Common editing tasks include inserting, deleting, cutting, copying, and pasting items in a document. For example, using Paint, you can **insert**, or add, text to a map, such as the names of key landmarks. When you **delete**, you remove text or objects. To **cut** involves removing a portion of the document and electronically storing it in a temporary storage location called the **Clipboard**. When you **copy**, a portion of the document is duplicated and stored on the Clipboard. To place whatever is stored on the Clipboard into the document, you **paste** it into the document.

Formatting involves changing the appearance of a document. Formatting is important because the overall look of a document can significantly affect its ability to communicate effectively. For example, you might want to increase the size of the text to improve readability.

One often-used formatting task involves formatting text by changing the font, font size, or font style of text. A **font** is a name assigned to a specific design of characters. Arial and Times New Roman are examples of fonts. The **font size** specifies the size of the characters in a particular font. Font size is gauged by a measurement system called **points**. A single point is about 1/72 of an inch in height. The text you are reading in this book is 10.5 point. Thus, each character is about 10/72 of an inch in height. A **font style** is used to add emphasis to a font. Examples of font styles are **bold**, *italic*, and underline. Examples of these and additional formatting features are shown in Figure 3-6.

While you are creating, editing, and formatting a document, it is held temporarily in memory. As you work, you normally save your document for future use. **Saving** is the process of copying a document from memory to a storage medium, such as a

Web Info

For more information about fonts, visit the Teachers Discovering Computers Web site, (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click Font.

Header Example ← header appears at top of every page — date (and time) can appear in header or footer → April 21, 2011

FONT & FONT STYLES *Examples show different typefaces in bold, underline, or italic.*	Courier **Courier Bold**	Helvetica Helvetica Underlined	Times New Roman *Times New Roman Italic*	
POINT SIZES *Examples show different point sizes, which can be used to make type larger or smaller.*	6 point 8 point 10 point 12 point 14 point 20 point 30 point 50 point			
COLUMNS & ALIGNMENT *Examples show four columns with different alignments.*	This is an example of **left alignment**. Notice how the words at the beginning of each line are aligned with the left column margin.	This is an example of **justified alignment**. The spacing between words is adjusted so the words at the beginning and the end of the lines are aligned with the left and right column margins.	This is an example of **center alignment**. The words are centered in the column.	This is an example of **right alignment**. Notice how the words at the end of each line are aligned with the right column margin.
TABLES & GRAPHICS *Example shows a three-column table, which can be moved as a single object, shading applied to every other row, and a border around the table.*	Part Number / Description / Price A101 / widget / $ 9.95 B202 / gizmo / $ 14.95 C303 / thingee / $ 19.95 D404 / doodad / $ 24.95		*Example shows that a graphic can be placed anywhere on page.*	

Footer Example ← footer appears at bottom of every page — automatic page number can appear anywhere in header or footer → 1

Figure 3-6 Examples of formatting features available with many productivity programs.

USB flash drive or hard disk. You should save the document frequently while working with it so your work will not be lost if the power fails or the computer crashes. Many applications also have an optional **AutoSave** feature that automatically saves open documents at specified time periods. You should save your work frequently, however, and not rely on the AutoSave feature.

After you have created a document, you can print it many times, with each copy looking just like the first. **Printing** is the process of sending a file to a printer to generate output on a medium, such as paper. You also can send the document to others electronically, if your computer is connected to a network.

In some cases, when you instruct a program to perform an activity such as printing, a dialog box opens. A **dialog box** is a special window displayed by a program to provide information, present available options, or request a response using command buttons, option buttons, text boxes, and check boxes (Figure 3-7). A Print dialog box, for example, gives you many printing options, such as printing multiple copies or using different printers.

FAQ

Will a document print as it looks on the screen?

Usually, yes, because most current application software is WYSIWYG (what you see is what you get). The application software embeds invisible codes around the text and graphics, which instruct the printer how to present the information.

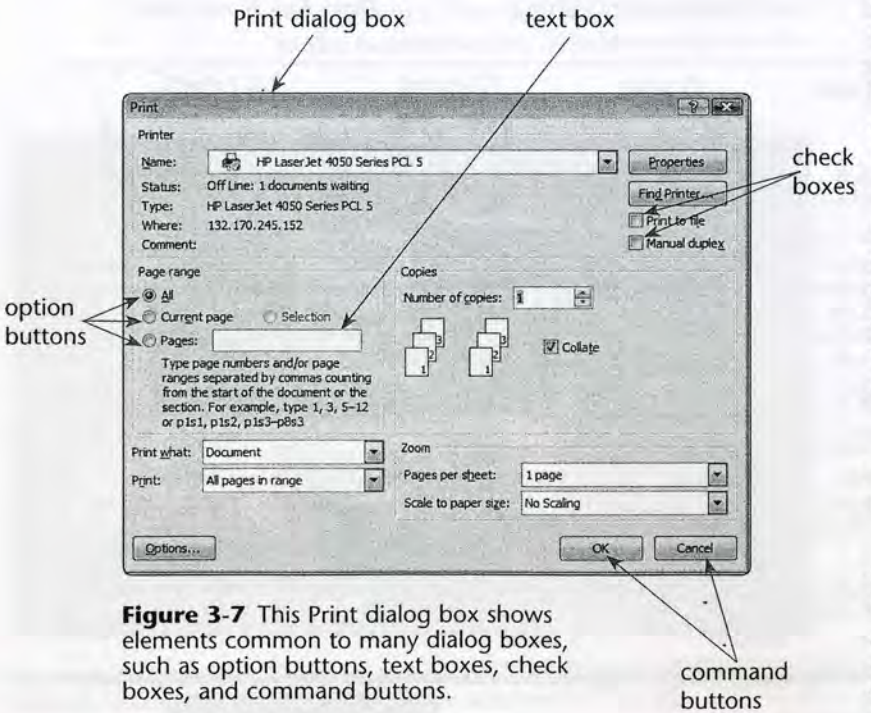


Figure 3-7 This Print dialog box shows elements common to many dialog boxes, such as option buttons, text boxes, check boxes, and command buttons.

VOICE RECOGNITION

Many software applications support voice recognition. **Voice recognition**, also called **speech recognition**, is the computer's capability of distinguishing spoken words. You speak into the computer's microphone and watch your words display on your screen as you talk. You also can edit and format a document by speaking or spelling instructions.

NOTE TAKING SOFTWARE

Note taking software is application software that enables users to enter typed text, handwritten comments, graphs, drawings, or sketches anywhere on a page and then save the page as part of an electronic notebook. The software can convert handwritten comments to typed text or store the notes in a handwritten form. Users also can include audio recordings as part of their notes.

After notes are captured (entered and saved), users can organize them, reuse them, and share them easily. The software allows the users to search through saved notes for specific text. Users can search through an entire notebook. Users can flag important notes with color, highlight, and shapes. On a desktop or notebook computer, users enter notes primarily via the keyboard or microphone. On a Tablet PC, however, the primary input device is a **digital pen**. Students may find note taking software more convenient and easier to use during class lectures, in libraries, and in other settings that previously required a pencil and tablet of paper for recording thoughts and discussions.

Note taking software incorporates many of the features found in word processing software, such as checking spelling, changing fonts and font sizes, adding colors, recognizing voice input, inserting audio and video files, providing research capabilities, and so much more.

NOTE TAKING SOFTWARE AS A DIGITAL TOOL FOR DIGITAL KIDS

Did you ever experience the frustration of not being able to read your written notes before a test? Have you looked through page after page of your written notes for answers to specific questions but couldn't find them? These problems, so typical of the experiences

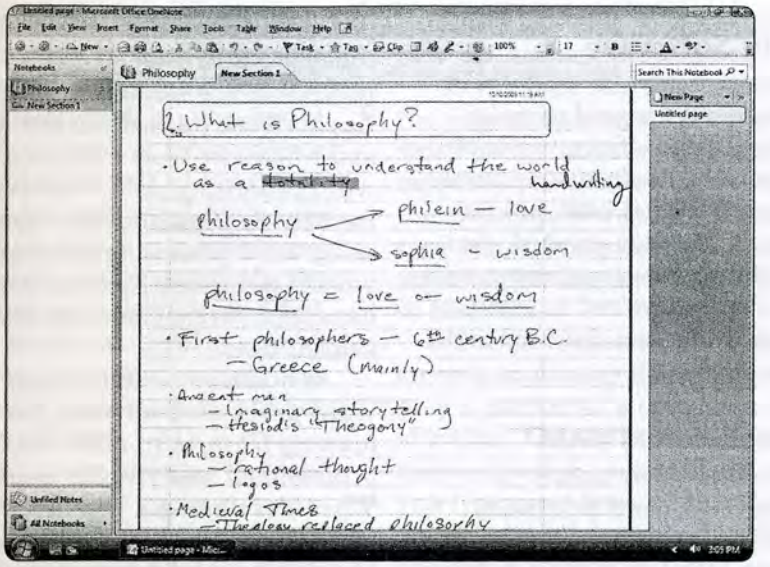


Figure 3-8 With note taking software, digital students and other mobile users can handwrite notes, draw sketches, type text, send handwritten e-mails, and more.

Integration Strategies

To learn more about how to use and integrate Microsoft's note taking software, OneNote, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, and then click Digital Media Corner.

of digital immigrant teachers, may be a thing of the past for today's digital kids. In fact, note taking software for this digital generation may be a perfect solution both inside and outside the classroom. By using note taking software (Figure 3-8 above), students can have digital documents that are legible, searchable, and editable; however, most students are still taking notes the traditional way, with paper and pencil. Although more and more K-12 students are bringing their laptops to class and typing their notes, many of these students cannot type as fast as they can write. With the power of note taking software, students can increase their comprehension and capture more of the content.

Many experts are predicting that as Tablet PCs and other mobile note taking devices become mainstream, printed school and college textbooks will become obsolete. Instead, digital students will interact with digital versions of their textbooks (Figure 3-9). Currently, several publishers are perfecting various ways of providing their content via the Web, Tablet PC, and traditional printed versions of their textbooks to determine which one is successful with students.

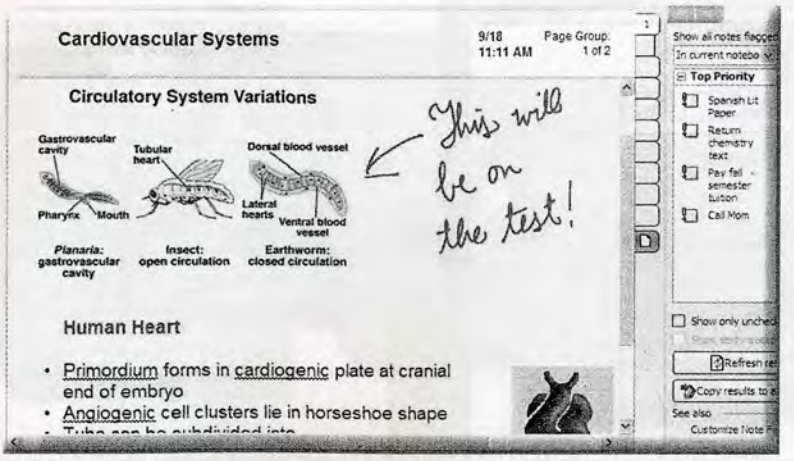


Figure 3-9 Education will reap many benefits as Tablet PCs and the multitude of software products being developed for them become mainstream.

STUDENT EDITION LABS

To enhance your understanding and knowledge of word processing software, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, click Learn it Online, click Student Edition Labs, and then select the Word Processing Lab.

Productivity Software

Productivity software is designed to make people more effective and efficient while performing daily activities. Productivity software includes applications such as word processing, spreadsheet, presentation graphics, database, personal information management, and software suites. The features and functions of each of these applications are discussed in the following sections.

WORD PROCESSING SOFTWARE

One of the more widely used application software is **word processing software**, which is used to create, edit, and format documents that consist primarily of text (Figure 3-10). Millions of people use word processing software every day to create documents such as letters, memos, reports, fax cover sheets, mailing labels, and newsletters. The more popular word processing programs used in schools today are Microsoft Word and the word processing applications included with Apple iWork (formally called AppleWorks) and Microsoft Works. By acquiring solid word processing skills, teachers can increase their productivity significantly by using word processing software to create written documents, such as lesson plans, handouts, parent communications, and student tests.

In addition to supporting basic text, word processing software has many formatting features to make documents look professional and visually appealing. When developing a newsletter, for example, you can change the font and font size of headlines and headings, change the color of characters, or organize text into newspaper-style columns. Any colors used for characters or other formatting will print as black or gray unless you have a color printer.

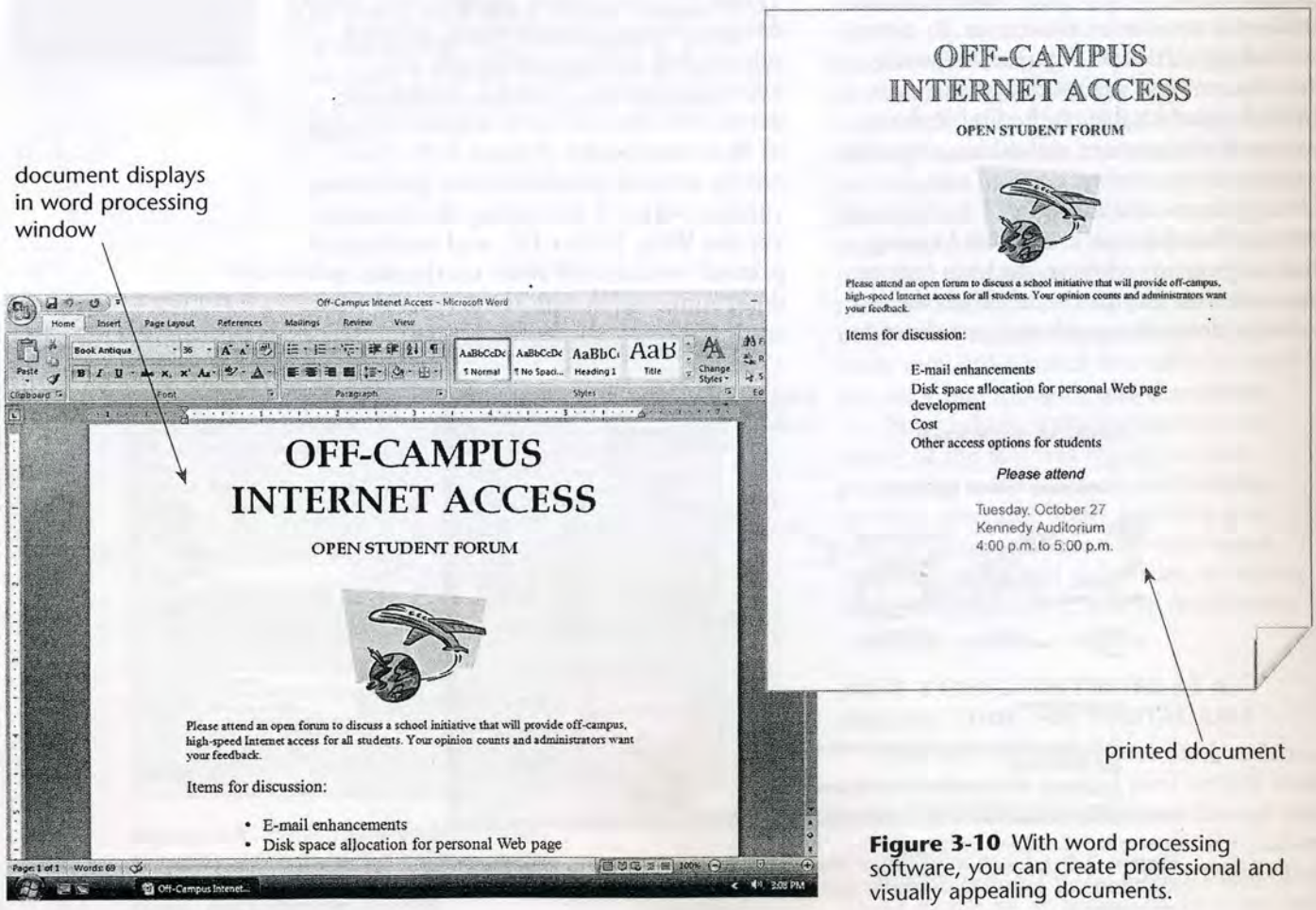

document displays in word processing window
Off-Campus Internet Access - Microsoft Word
OFF-CAMPUS INTERNET ACCESS
OPEN STUDENT FORUM
Please attend an open forum to discuss a school initiative that will provide off-campus, high-speed Internet access for all students. Your opinion counts and administrators want your feedback.
Items for discussion:
• E-mail enhancements
• Disk space allocation for personal Web page
OFF-CAMPUS INTERNET ACCESS
OPEN STUDENT FORUM
Please attend an open forum to discuss a school initiative that will provide off-campus, high-speed Internet access for all students. Your opinion counts and administrators want your feedback.
Items for discussion:
E-mail enhancements
Disk space allocation for personal Web page development
Cost
Other access options for students
Please attend
Tuesday, October 27
Kennedy Auditorium
4:00 p.m. to 5:00 p.m.
printed document

Figure 3-10 With word processing software, you can create professional and visually appealing documents.

Most word processing software also can incorporate many types of graphics. For example, you can enhance a document by adding a **border**, which is a decorative line or pattern along one or more edges of a page or graphic. One type of graphic commonly included with word processing software is **clip art**, which is a collection of drawings, diagrams, and photographs that can be inserted in other documents. **Clip art collections**, which can contain several hundred to several thousand images, usually are grouped by type, such as buildings, people, or nature (Figure 3-11). If you want to use clip art not included in your word processing software package, you **import** (bring into) the clip art into a word processing document from another source such as a purchased CD collection or from a Web site. You can also create graphics using Paint and other image editing software. You can import these graphics into your document too. Paint and image editing software are discussed later in this chapter. After you insert, or import, a clip art image or other graphic into a document, you can move, resize, rotate, crop, and adjust its color.

All word processing software provides basic capabilities to help you create, edit, and format documents. For example, you can define the size of the paper on which to print, as well as the **margins** — that is, the portion of the page outside the main body of text, on the top, bottom, left, and right sides of the paper. The word processing software automatically readjusts any text so it fits within the new definitions.

If you type text that extends beyond the page margin or window boundary, the word processor uses **wordwrap** to automatically position text at the beginning of the next line. Wordwrap allows you to type words in a paragraph continually without pressing the Enter key at the end of each line.

In some instances, for example if you create a multipage document, you can view only a portion of a document on the screen at a time. The top portion of the document moves upward, or scrolls, off the screen as you type more lines of text than can be displayed on the screen. **Scrolling** is the process of moving different portions of the document into view on the screen.

A major advantage of using word processing software is that you can change easily what you have written. You can insert, delete, or rearrange words, sentences, or entire sections. You can use the **find** or **search** feature to locate all occurrences of a particular character, word, or phrase. This feature can be used in combination with the **replace** feature to substitute existing characters or words with new ones. Current word processing software packages even have a feature that automatically corrects errors and makes word substitutions as you type text.

To review the spelling of individual words, sections of a document, or the entire document, you can use a **spelling checker**, also called a **spell checker**.

Web Info

For samples of clip art available on the Internet, visit the Teachers Discovering Computers Web site, (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click Clip Art.

Web Info

For details about spelling bees, visit the Teachers Discovering Computers Web site, (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click Spelling.

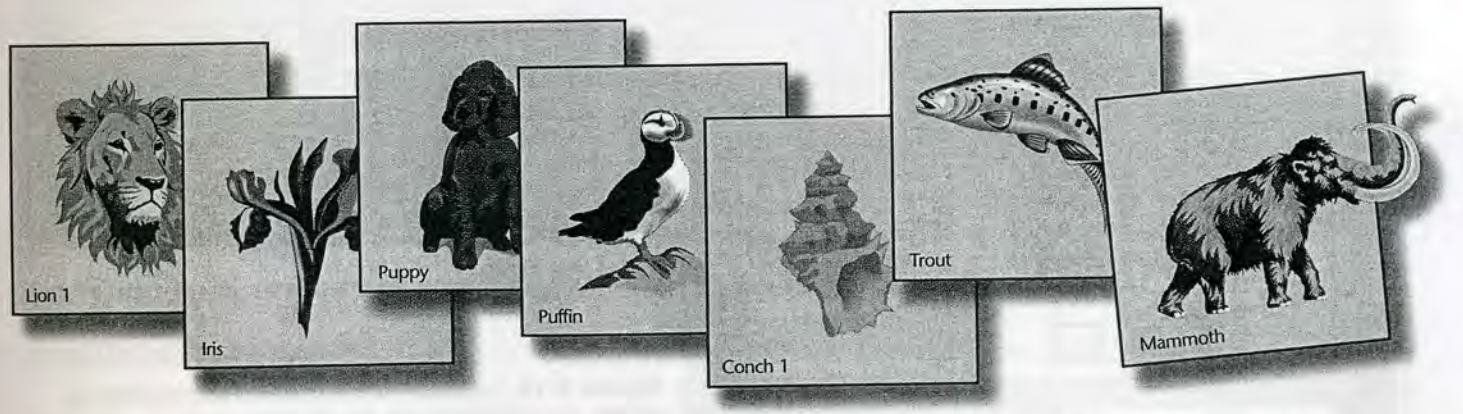


Figure 3-11 Clip art consists of previously created illustrations that can be added to documents. Clip art collections include graphic images that are grouped by type. These clip art examples are from an animals and nature collection.

A spelling checker compares the words in the document with an electronic dictionary that is part of the word processing software (Figure 3-12). You can customize the electronic dictionary by adding words, such as names of companies, schools, streets, and cities, and personal names, so the software can spell check those words as well. Many word processing software packages allow you to check the spelling of a whole document at one time or check the spelling of single words as you type.

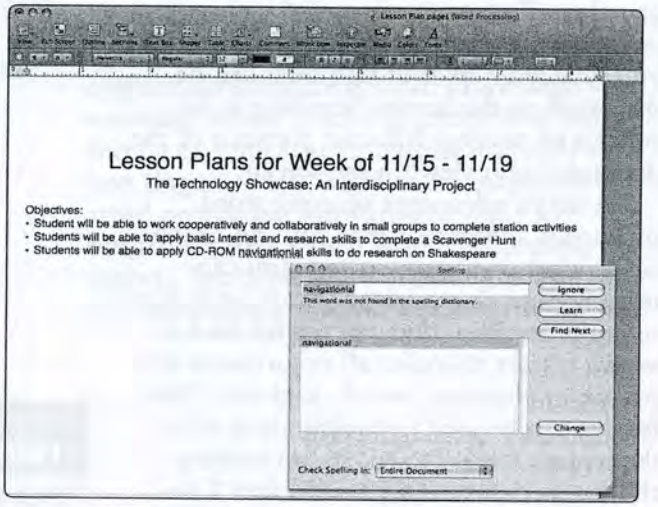

Lesson Plans for Week of 11/15 - 11/19
The Technology Showcase: An Interdisciplinary Project
Objectives:
• Student will be able to work cooperatively and collaboratively in small groups to complete station activities
• Students will be able to apply basic Internet and research skills to complete a Scavenger Hunt
• Students will be able to apply CD-ROM navigational skills to do research on Shakespeare
Spelling
Navigational
This word was not found in the spelling dictionary.
Ignore
Learn
Find Next
navigational
Change
Check Spelling in: Entire Document

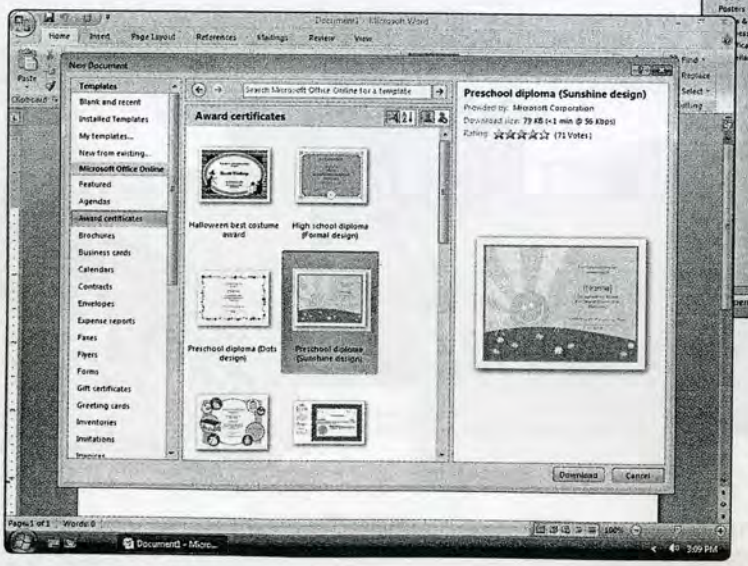
Figure 3-12 Spell checkers are included with most word processors. Shown is the spell checker included with Apple iWork.

You also can insert headers and footers into a word processing document. A **header** is text you want at the top of each page; a **footer** is text you want at the bottom of each page. Page numbers, as well as company and school names, report titles, or dates are examples of items frequently included in headers and footers.

Many word processing programs make it quick and easy for teachers and students to create personalized documents using templates and special programs called wizards. A **template** is a document that contains the formatting necessary for a specific document type. A **wizard**, or **assistant**, is an automated tool that helps you complete a task by asking you questions and then automatically performing actions based on your answers. Many software applications include wizards. Word processing software, for example, uses wizards and templates to help you create blogs, memorandums, meeting agendas, letters, and other professional looking documents (Figure 3-13).

In addition to these basic features, most current word processing packages provide many other features, some of which are listed in the table in Figure 3-14 on the next page.

[a] Apple iWork



[b] Microsoft Word

Figure 3-13 Templates allow teachers and students to create personalized flyers, newsletters, certificates, and more quickly. Figure 3-13a shows some of the templates available in Apple iWork, and Figure 3-13b shows some of the templates available in Microsoft Word.

Some Word Processing Features	
AutoCorrect	As you type words, the AutoCorrect feature corrects common spelling errors. AutoCorrect also corrects capitalization mistakes.
AutoFormat	As you type, the AutoFormat feature automatically applies formatting to the text. For example, it automatically numbers a list or converts a Web address to a hyperlink.
Collaboration	Collaboration includes discussions and online meetings. Discussions allow multiple users to enter comments in a document and read and reply to each other's comments. Through an online meeting, users share documents with others in real time and view changes as they are being made.
Columns	Most word processing software can arrange text in two or more columns to look like a newspaper or magazine. The text from the bottom of one column automatically flows to the top of the next column.
Grammar Checker	The grammar checker proofreads documents for grammar, writing style, sentence structure errors, and reading statistics.
Ink Input	Ink input supports input from a digital pen. Word processing software that supports ink input incorporates a user's handwritten text and drawings in a word processing document. Ink input is popular on Tablet PCs.
Macros	A *macro* is a sequence of keystrokes and instructions that a user records and saves. When you want to execute the same series of instructions, execute the macro instead.
Mail Merge	Mail merge creates form letters, mailing labels, and envelopes.
Reading Layout	For those users who prefer reading on the screen, reading layout increases the readability and legibility of an on-screen document by hiding unnecessary toolbars, increasing the size of displayed characters, and providing navigation tools.
Research	Some word processing software allows you to search through various forms of online and Internet reference information — based on selected text in a document. Research services available include a thesaurus, English and bilingual dictionaries, encyclopedias, and Web sites that provide information such as stock quotes, news articles, and company profiles.
Smart Tags	*Smart Tags* automatically appear on the screen when you perform a certain action. For example, typing an address causes a Smart Tag to appear. Clicking this Smart Tag provides options to display a map of the address or driving directions to or from the address.
Tables	Tables organize information into rows and columns. In addition to evenly spaced rows and columns, some word processing programs allow you to draw tables of any size or shape.
Templates	A *template* is a document that contains the formatting necessary for a specific document type. Templates usually exist for memos, fax cover sheets, and letters. In addition to templates provided with the software, users have access to many online templates through the software manufacturer's Web site.
Thesaurus	With a thesaurus, a user looks up a synonym (word with the same meaning) for a word in a document.
Tracking Changes	If multiple users work with a document, the word processing software highlights or color-codes changes made by various users.
Voice Recognition	With some word processing programs, users can speak into the computer's microphone and watch the spoken words appear on the screen as they speak. With these programs, users edit and format the document by speaking or spelling an instruction.
Web Page Development	Most word processing software allows users to create, edit, format, and convert documents to be displayed on the World Wide Web.

Figure 3-14 Some of the features included with word processing software.

SPREADSHEET SOFTWARE

Another widely used software application is **spreadsheet software,** which allows you to organize numeric data in rows and columns. These rows and columns collectively are called a **spreadsheet,** or **worksheet.** Manual spreadsheets created using pencil and paper have long been used to organize numeric data. The data in an electronic spreadsheet is organized in the same manner as it is in a manual spreadsheet (Figure 3-15 on the next page).

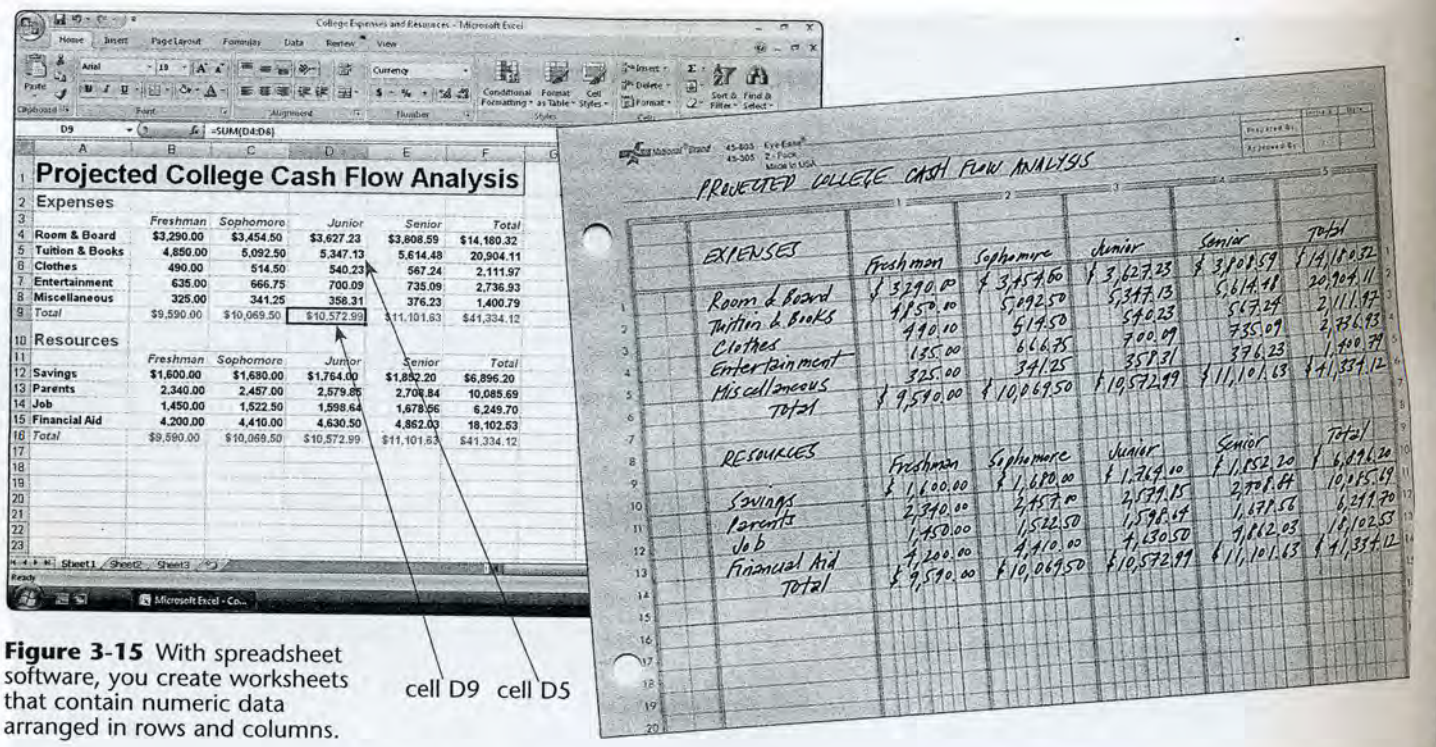


Figure 3-15 With spreadsheet software, you create worksheets that contain numeric data arranged in rows and columns.

Individuals who frequently work with numbers, such as financial statements and payroll, use spreadsheets. Many teachers interact with spreadsheet programs on a daily basis. Every time teachers enter students' grade or attendance information into a computer, they are entering information into a special spreadsheet program, called an electronic grade book. K-12 grade book programs are discussed later in this chapter.

As with word processing software, most spreadsheet software has basic features to help you create, edit, and format electronic spreadsheets. These features, which are included in several popular spreadsheet packages, are described below. Spreadsheet software included in Microsoft Works and Apple iWork, as well as Microsoft Excel that is packaged with Microsoft Office, are the programs typically used in schools.

Spreadsheet files normally have thousands of columns and rows. Each column is identified by a letter, and each row is identified by a number. The column letters begin with A and row numbers begin with 1. Only a small fraction of these columns and rows are displayed on the screen at one time. You can scroll to view different parts of a worksheet on your screen.

STUDENT EDITION LABS

To enhance your understanding and knowledge of spreadsheet software, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, click Learn it Online, click Student Edition Labs, and then select the Spreadsheets Lab.

The intersection of a column and row is called a **cell**. Cells are identified by the column and row in which they are located. For example, the intersection of column D and row 5 is referred to as cell D5. In Figure 3-15 above, cell D5 contains the number 5,347.13, which represents Junior year Tuition & Books expenses.

Cells may contain three types of data: labels (text), values (numbers), and formulas. The text, or **label**, entered in a cell is used to identify the data and help organize the spreadsheet. Using descriptive labels, such as Room & Board, Tuition & Books, and Clothes, helps make a spreadsheet more meaningful.

Many of the spreadsheet cells shown in Figure 3-15 contain a number, or a **value**. Other cells, however, contain formulas that are used to generate values. A **formula** performs calculations on the numeric data in the spreadsheet and displays the resulting value in the cell containing the formula. In Figure 3-15, for example, cell D9 contains the formula to calculate the projected total expenses for the student's junior year.

A **function** is a predefined formula that performs common calculations, such as adding the values in a group of cells. For example, instead of using the formula =D4+D5+D6+D7+D8 to calculate the

projected total expenses for the student's junior year, you should use the function =sum(D4:D8), which adds, or sums, the contents of cells D4, D5, D6, D7, and D8.

Another standard feature of spreadsheet software is the capability of turning numeric data into a chart that graphically illustrates the relationship of the numeric data. Visual representation of data in charts often makes it easier to analyze and interpret information. Most charts are variations of three basic chart types — line charts, column charts, and pie charts, as shown in Figure 3-16. It is important to pick the chart type that provides the best visualization for your data. To improve their appearance, most charts can be displayed or printed in a three-dimensional format.

As with word processing software, you can create professional looking spreadsheets quickly using wizards. Using the wizards in most popular spreadsheet packages is easy and allows you to create grade books, classroom and school schedules, charts, and more. Spreadsheet software also incorporates many of the features of word processing software, such as a spelling checker, font formatting, and the capability of converting an existing spreadsheet document into the standard document format for the World Wide Web. Because individual rows, columns, cells, or any combination of cells can be formatted, school districts and businesses often use spreadsheet programs to create their standardized forms.

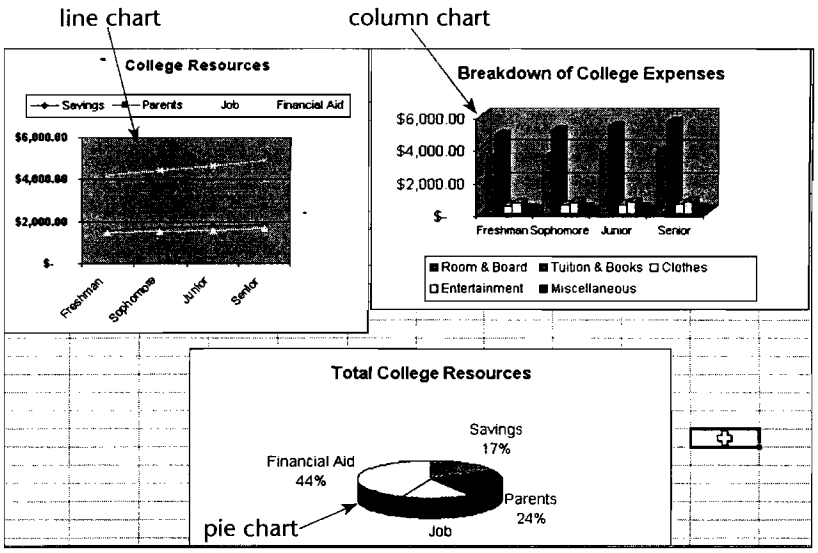


Figure 3-16 Three basic types of charts provided with spreadsheet software are line charts, column charts, and pie charts. The line chart, column chart, and pie chart shown were created from the data in the worksheet in Figure 3-15.

DATABASE SOFTWARE

A database is a collection of data organized in a manner that allows access, retrieval, and use of that data. In a manual system, schools record information on paper and store it in a filing cabinet (Figure 3-17). In a computerized database, such as the one shown in Figure 3-20 on page 151, data is stored in an electronic format on a storage medium. Database software allows you to create a computerized database; add, change, and delete data; sort and retrieve data from the database; and create forms and reports using the data in the database.

Database software is used extensively by businesses and other organizations to organize data and information about customers, employees, equipment, product inventory, sales information, and more. Schools use databases to organize data and information about students, staff members, school policies, equipment inventories, book inventories, purchases, and more. Database programs typically used in schools include Microsoft Access,

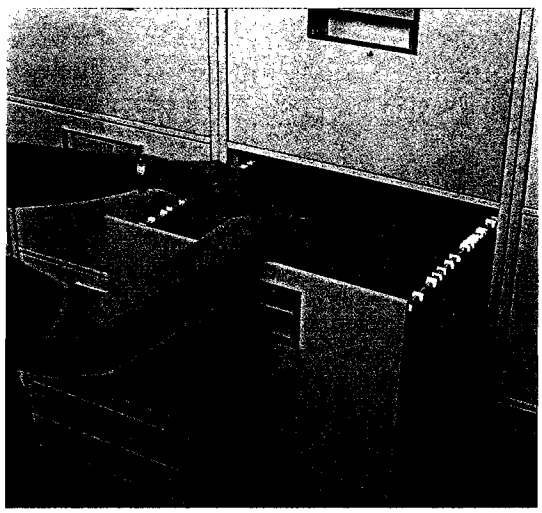


Figure 3-17 A database is similar to a manual system in which related data items are stored in files.

STUDENT EDITION LABS

To enhance your understanding and knowledge of database software, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, click Learn it Online, click Student Edition Labs, and then select the Databases Lab.

FAQ

How big is the largest database?

According to a recent survey, the world's largest database holds more than 6 quadrillion characters. In the next few years, the size of the largest database is expected to double and then double again.

FileMaker Pro, and the database software included in Microsoft Works.

When you use a database, you need to be familiar with the terms file, record, and field. Just as in a manual system, a **database file** is a collection of related data that is organized in records. Each record contains a collection of related facts called fields. A **field** is the smallest unit of information you can access in a database. For example, a student database file might consist of records containing names, address information, and parental or guardian information. All of the data that relates to one student is considered a record. Each fact in a record, such as the street address or telephone number, is called a field.

Figures 3-18 through 3-20 present the development of a database containing basic information about students enrolled in Ms. Eileen Tanner's second grade class at Martin Luther King Elementary School. This simple database contains the following information about each student: first name, last name, guardian's address, name, and telephone number.

Before you begin creating a database, you should make a list of the data items you want to organize (Figure 3-18). Each set of related information will become a record. Each item will become a field in the database. A field entry screen from Microsoft Works is shown in Figure 3-19. To identify the different fields, assign each field a unique name that is short, yet descriptive. For example, the field name for a student's last name could be Last Name, the field name for a student's first name could be First Name, and so on. Database programs differ slightly in how they require the user to enter or define fields.

After the database structure is created by defining the fields, data for individual database records can be entered. After data for all records is entered, the database can be used to produce information. Figure 3-20 on the next page shows the database after the information about the students has been entered.

As with word processing and spreadsheet software, database software includes wizards that allow teachers and students to create databases for use as address books, directories of parents and students, equipment and book inventories, and so on.

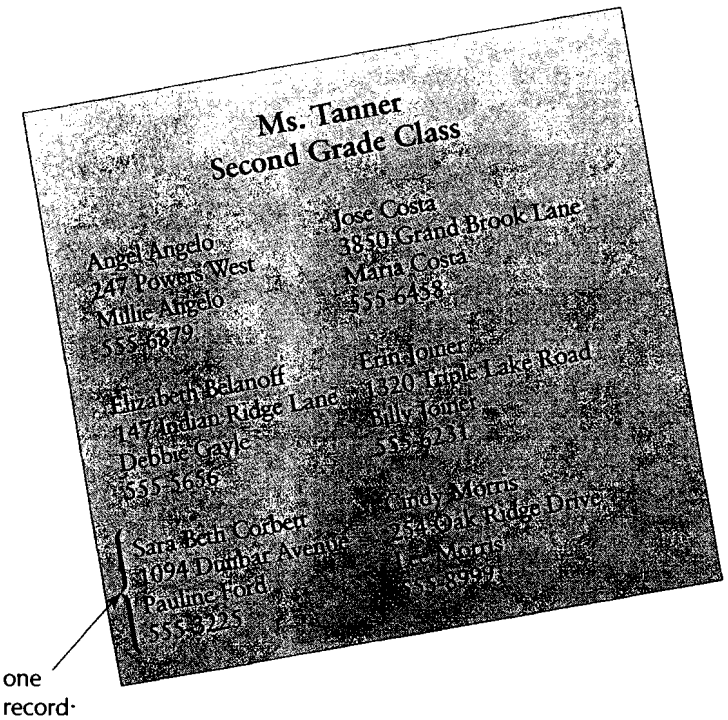


Figure 3-18 This figure shows a partial list of the student information Ms. Tanner will be entering in her student database.

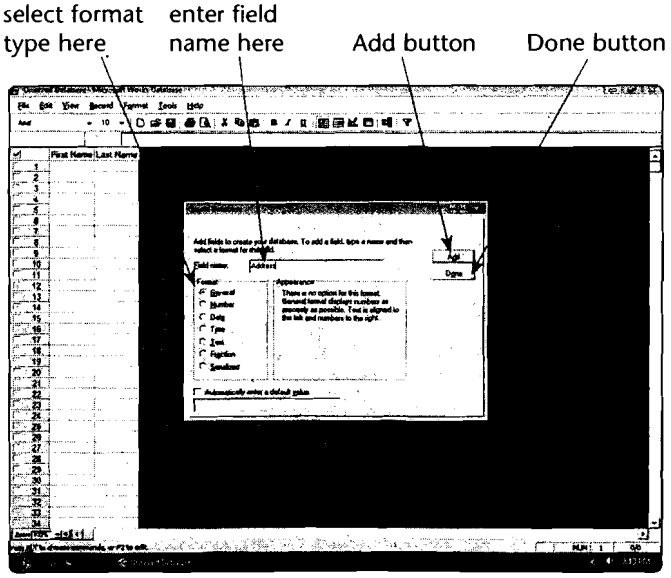


Figure 3-19 To create database fields in Microsoft Works, you simply type in each field name, select the format associated with each field, and then click the Add button. After entering all the fields and clicking the Done button in the Create Database dialog box, you are ready to enter the data in the new database.

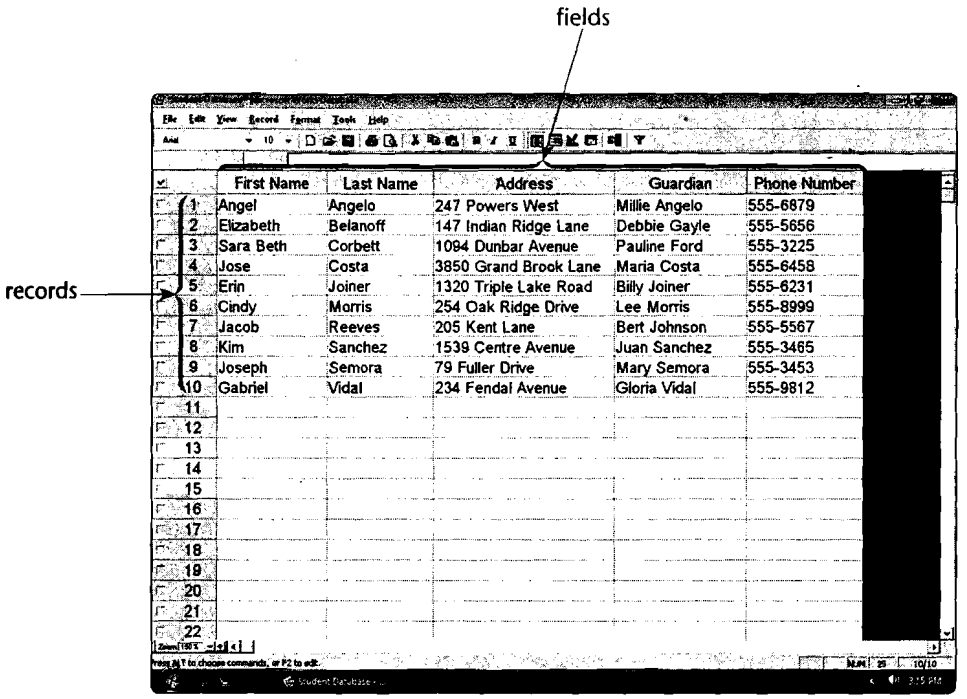

fields
records
First Name
Last Name
Address
Guardian
Phone Number
1 Angel Angelo 247 Powers West Millie Angelo 555-6879
2 Elizabeth Belanoff 147 Indian Ridge Lane Debbie Gayle 555-5656
3 Sara Beth Corbett 1084 Dunbar Avenue Pauline Ford 555-3225
4 Jose Costa 3850 Grand Brook Lane Maria Costa 555-6458
5 Erin Joiner 1320 Triple Lake Road Billy Joiner 555-6231
6 Cindy Morris 254 Oak Ridge Drive Lee Morris 555-8999
7 Jacob Reeves 205 Kent Lane Bert Johnson 555-5567
8 Kim Sanchez 1539 Centre Avenue Juan Sanchez 555-3465
9 Joseph Semora 79 Fuller Drive Mary Semora 555-3453
10 Gabriel Vidal 234 Fendal Avenue Gloria Vidal 555-9812

Figure 3-20 After data has been entered into a database, the records can be arranged in any order specified by users. In this example, the records have been organized alphabetically based on students' last names.

PRESENTATION GRAPHICS SOFTWARE

Using presentation graphics software, you can create documents called **presentations**, which you then use to communicate ideas, messages, and other information to a group, such as a class or auditorium of people. The presentations can be viewed as slides that are displayed on a large monitor or projected onto a screen. Slides also can be made into traditional overhead transparencies or printed and given to students as a handout (Figure 3-21 on the next page).

Presentation programs typically used in schools are the presentation software included with Apple iWork, Keynote, and Microsoft PowerPoint packaged with Microsoft Office.

Presentation graphics software typically provides an array of predefined presentation formats that define complementary colors for backgrounds, text, and other special effects. Presentation graphics software also provides a variety of layouts for each individual slide so you can create a title slide, a two-column slide, a slide with clip art, and slides with other formats. Any text, charts, and graphics used in a slide can be enhanced with 3D and other effects such as shading, shadows, and textures.

With presentation graphics software, you can incorporate objects from the clip art/image gallery into your slides to create multimedia presentations. A **clip art/image gallery** includes clip art images, pictures, videos, and audio files. A clip art/image gallery can be stored on a hard disk, a CD, or a DVD; you can also access clip art/image galleries on the Web. As with clip art collections, a clip art/image gallery typically is organized by categories, such as academic, business, entertainment, and transportation. For example, the transportation category may contain a clip art image of a bicycle, a photograph of a locomotive, a video of an airplane in flight, and an audio of a Model T car horn.

Web Info

For more information on Apple's Keynote, visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, click Web Info, and then click Keynote.

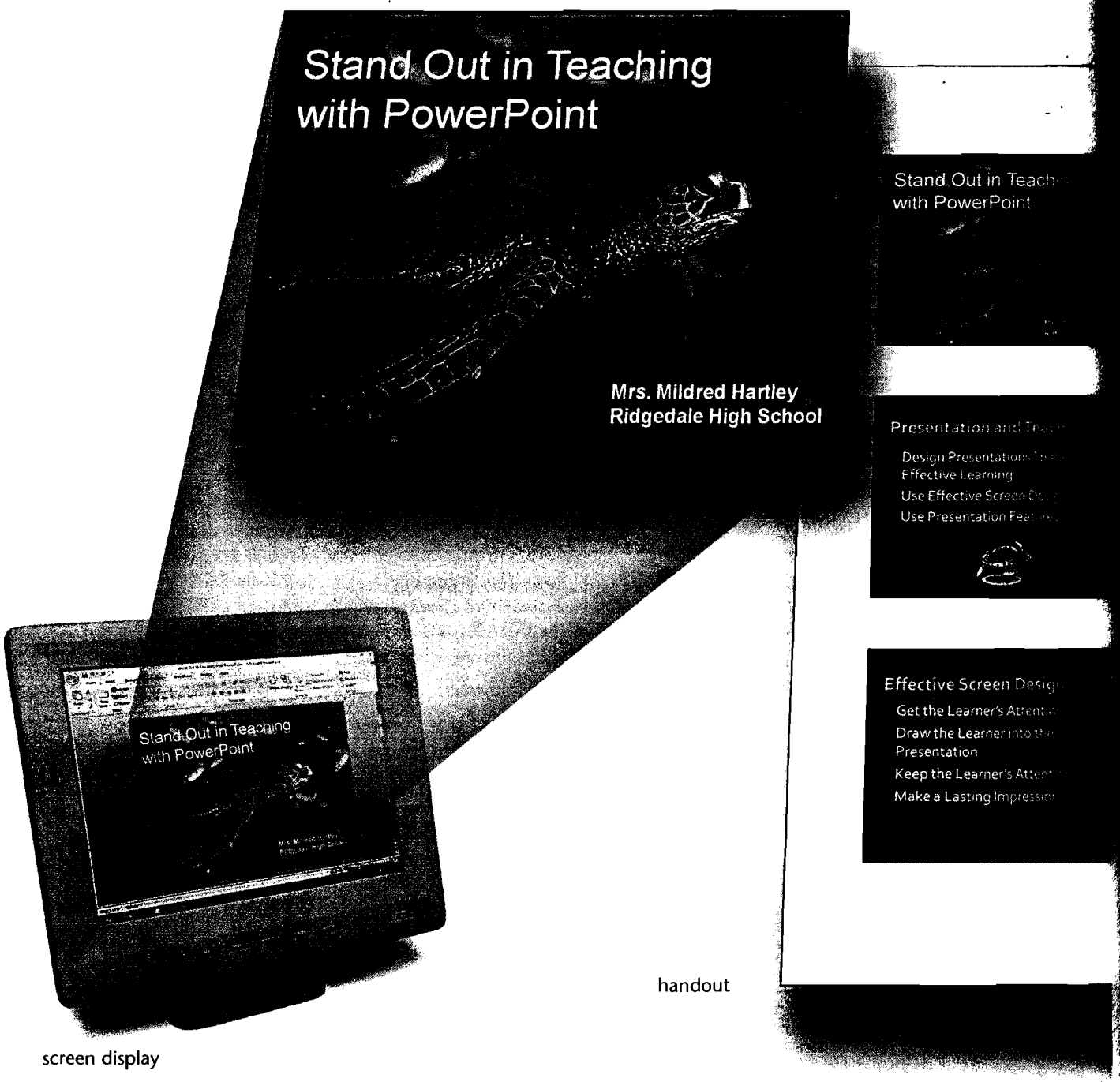
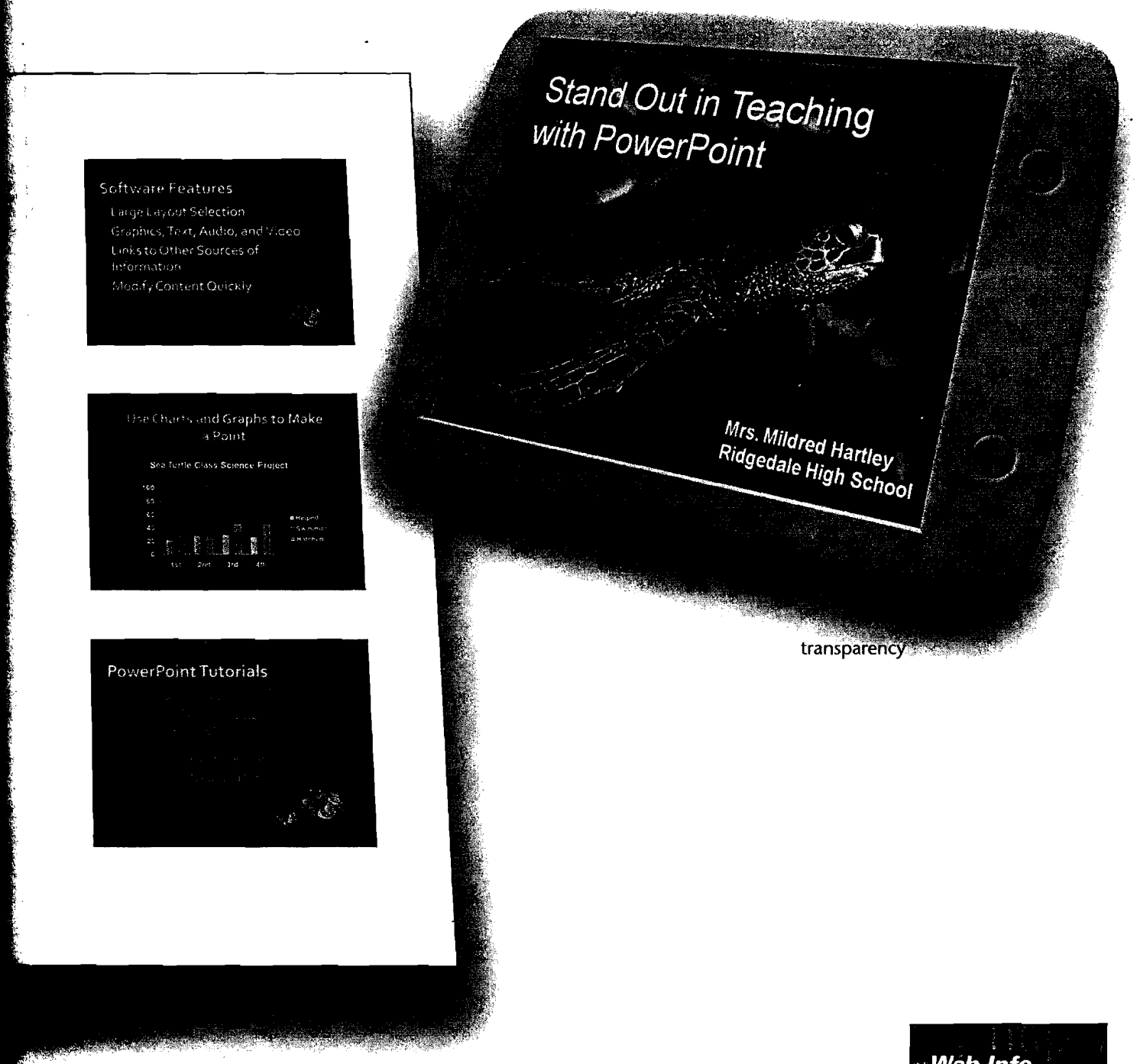


Figure 3-21 Teachers and students use presentation graphics software to create electronic slides. The slides can be displayed on a computer, projected on a screen, printed and handed out, or made into transparencies.

When building a presentation, you can set the slide timing so the presentation automatically displays the next slide after a predetermined delay. You also can apply special effects to the transition between each slide. For example, one slide might slowly dissolve as the next slide comes into view.

To help organize the presentation, you can view small versions of all the slides in a slide sorter. A **slide sorter** presents a screen view similar to how 35mm slides look


Stand Out in Teaching with PowerPoint
Mrs. Mildred Hartley
Ridgedale High School
Software Features
Large Layout Selection
Graphics, Text, Audio, and Video
Links to Other Sources of Information
Modify Content Quickly
Use Charts and Graphs to Make a Point
Sea Turtle Class Science Project
PowerPoint Tutorials

transparency

on a photographer's light table. The slide sorter allows you to arrange the slides in any order or display them one at a time by clicking the mouse or pressing a key on the keyboard (Figure 3-22 on the next page).

Presentation graphics software also incorporates some of the features provided in word processing software, such as spell checking, formatting, and converting an existing slide show into a format that can be viewed on the World Wide Web.

Presentation graphics programs are important software programs for K-12 schools. Teachers can create and integrate electronic presentations into any classroom curriculum as an exciting alternative to the

Web Info

For tips on using graphics effectively in a presentation, visit the Teachers Discovering Computers Web site, (*scsite.com/dco*), click Chapter 3, click Web Info, and then click Presentation

FAQ

Is PowerPoint hard for young students to use?

No, students as young as six and seven years old are creating PowerPoint presentations.

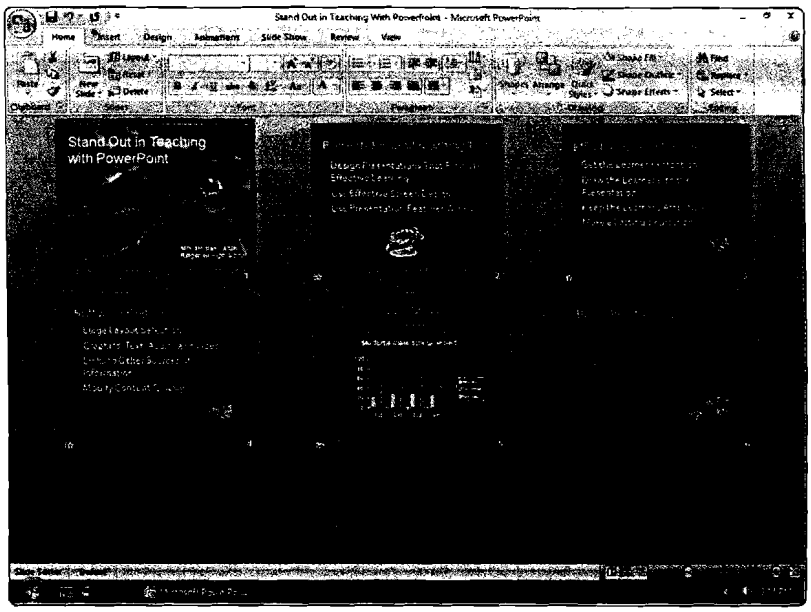


Figure 3-22 This slide sorter screen shows a small version of each slide. Using a pointing device or the keyboard, users can rearrange the order of the slides.

STUDENT EDITION LABS

To enhance your understanding and knowledge of presentation software, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, click Learn it Online, click Student Edition Labs, and then select the Presentation Software Lab.

traditional lecture-only teaching style (Figure 3-23). Students take great pride in creating their own presentations using presentation graphics software. Later chapters provide real-life examples of how teachers integrate presentation graphics software into their instruction and curriculum. A unique feature of presentation graphics software is that it allows you to create a presentation that presents information in a nonlinear format. When using overhead transparencies, teachers traditionally show one transparency after another in a predetermined order — that is, linear teaching and learning.

With presentation graphics software programs, teachers and students can create presentations easily with links to a variety of information sources. Teachers and students, for example, can create presentati

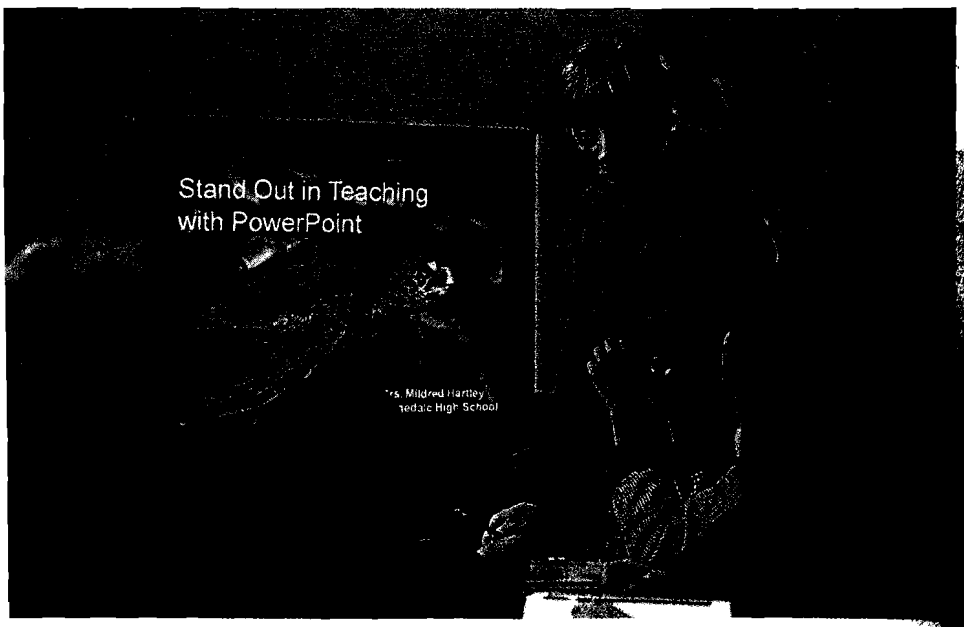


Figure 3-23 Electronic slide presentations are an exciting alternative to the traditional lecture-only teaching style.

with links to other slides, other presentations, other files and software programs, animations, videos, audio files, and even sites on the World Wide Web (Figure 3-24) if the presentation computer is connected to the Internet. Using these links, teachers and students can branch off in a nonlinear fashion at any point in a presentation, to display or access additional information.

The ability to modify presentation content according to student interest makes presentation graphics software a powerful teaching and learning tool. The In the Lab end-of-chapter section in Chapter 5 discusses using and integrating Microsoft PowerPoint in more depth.

PERSONAL INFORMATION MANAGERS

A personal information manager (PIM) is a software application installed on PDAs and smartphones that includes an appointment calendar, address book, notepad, and other features to help you organize personal information such as appointments, task lists, and more. A PIM allows you to take information that you tracked previously in a weekly or daily calendar, and organize

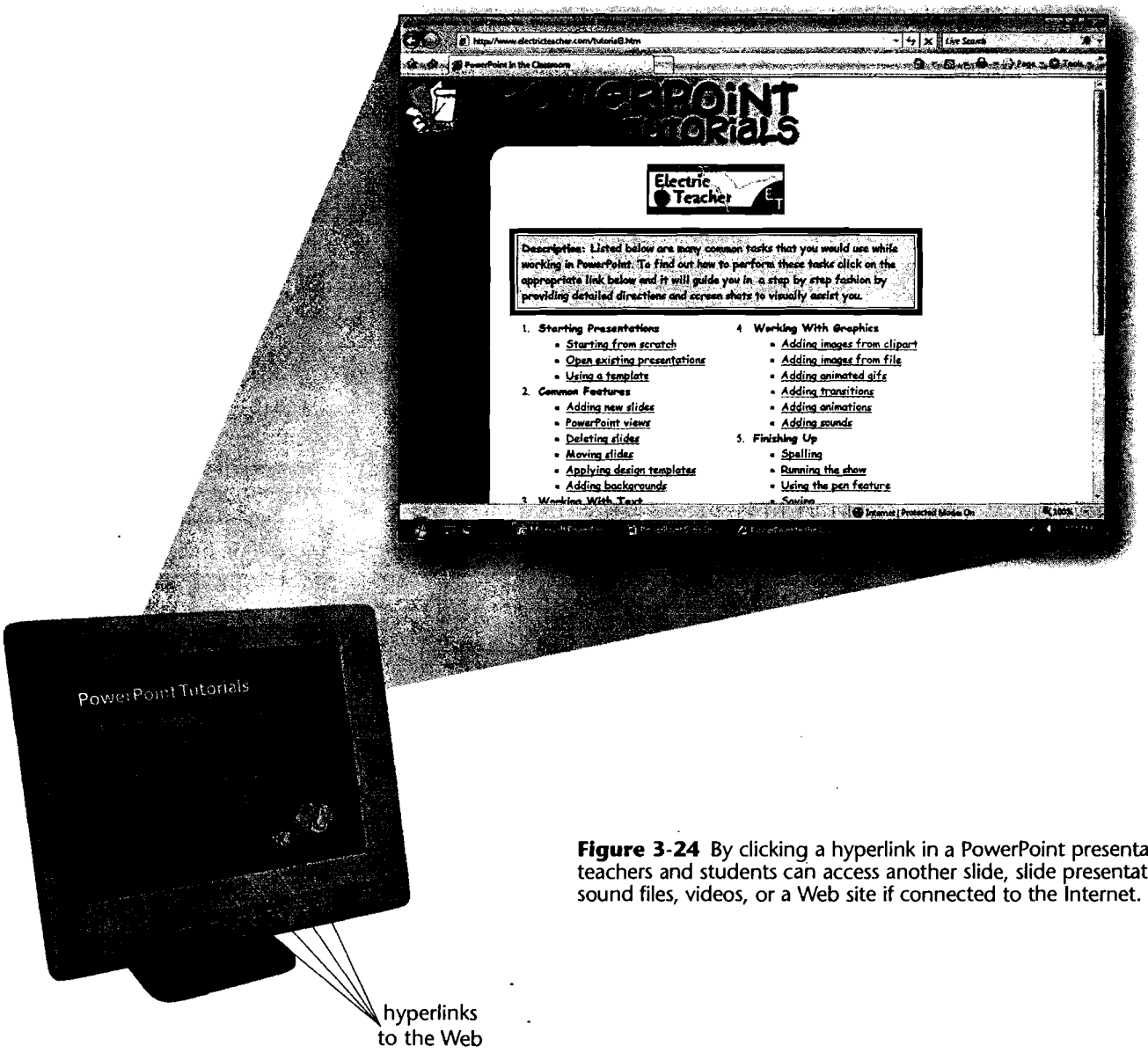

Electric Teacher
Description: Listed below are many common tasks that you would use while working in PowerPoint. To find out how to perform these tasks click on the appropriate link below and it will guide you in a step by step fashion by providing detailed directions and screen shots to visually assist you.
1. Starting Presentations
Starting from scratch
Open existing presentations
Using a template
2. Common Features
Adding new slides
PowerPoint views
Deleting slides
Moving slides
Applying design templates
Adding backgrounds
4 Working With Graphics
Adding images from clipart
Adding images from file
Adding animated gifs
Adding transitions
Adding animations
Adding sounds
5. Finishing Up
Spelling
Running the show
Using the pen feature
PowerPoint Tutorials
hyperlinks to the Web

Figure 3-24 By clicking a hyperlink in a PowerPoint presentation, teachers and students can access another slide, slide presentation, sound files, videos, or a Web site if connected to the Internet.

FAQ

Are PDAs also called Pocket PCs?

Only some of them. A **Pocket PC** is one type of PDA that uses the Pocket PC operating system software developed by Microsoft. Only a PDA that uses the Pocket PC software is called a Pocket PC.

and store it on your computer, PDA, or smartphone. PIMs can manage many different types of information, such as telephone messages, project notes, reminders, task and address lists, and important dates and appointments (Figure 3-25).

An **appointment calendar** allows you to schedule activities for a particular day and time. With an **address book**, you can enter and maintain names, addresses, and telephone numbers of coworkers, family members, and friends. Instead of writing notes on a piece of paper, you can use a **notepad** to record ideas, reminders, and other important information.

Most PDAs and smartphones contain many other features and built-in software programs in addition to those shown in Figure 3-25, including e-mail, Web browsing, instant messaging, and more. One of these features allows users to **synchronize**, or transfer, information and programs from the PDA or smartphone to a personal computer and vice versa. Some PDAs and smartphones transfer information wirelessly and others connect to the computer with a cable. Many PDAs and smartphones allow you to transfer information to another PDA, smartphone, or computer by a process called beaming (Figure 3-26 on the next page). **Beaming** is a method of transferring data through an infrared port.

Figure 3-25 Most PDAs come equipped with an address book, notepad, calendar, calculator, and to-do list.

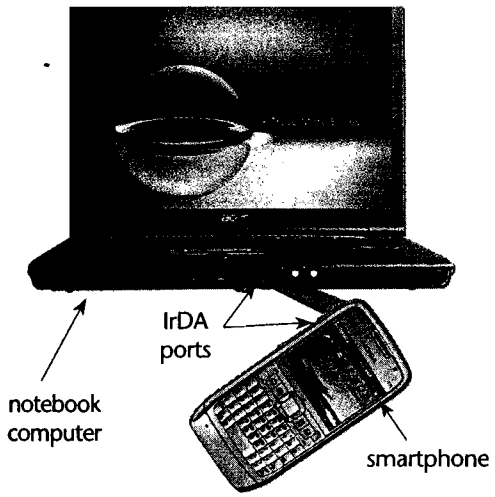


Figure 3-26 Most PDAs and smartphones allow users to synchronize information and programs with a personal computer.

PDA AND SMARTPHONE SOFTWARE

As with personal computers, PDAs and smartphones require an operating system. Common PDA operating systems include Palm OS, PocketPC, and Linux. Common smartphone operating systems include Symbian, Windows Mobile, OSX, Linux, and Android.

Software available for PDAs and smartphones enables users to create documents and worksheets, manage databases and lists, create slide shows, take notes, manage budgets and finances, view and edit photos, read electronic books, plan travel routes, compose and read e-mail messages, send instant messages, send text and picture messages, view maps and directions, read the latest news articles, browse the Web, use education apps, and so much more. Many of the programs discussed in this chapter have scaled-down versions that work with smartphones and other mobile devices.

Web applications, also known as Web apps, are programs that combine the power of the Internet with touch technology on your smartphone, PDA, or portable media device (Figure 3-27). Thousands of Web apps are now available; many are free and others vary in cost from $.99 to around $5 or more. With a simple finger tap, you can easily move through train schedules; turn your phone into a leveling tool; check TV and movie schedules; check the latest news, weather, and sport scores; play games, learn math, study for a Spanish quiz; and thousands of other things. People all over the world, including many middle and high school students are creating Web apps and posting them on iTunes and other Web sites (Figure 3-28).

Students and teachers can benefit from software designed for educational uses. Some experts are predicting that use of free and inexpensive Web applications for smartphones will be modified and used on netbook computers and eventually may replace many traditional educational software programs currently being used by K-12 schools. Figure 3-29 on the next page describes a few of the PDA and smartphone programs, including Web apps, that are designed for teachers and students in K-12 schools and institutions of higher education.

Web Info

For updated links to these and other PDA software sites, visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, click Web Info, and then click PDA Software.

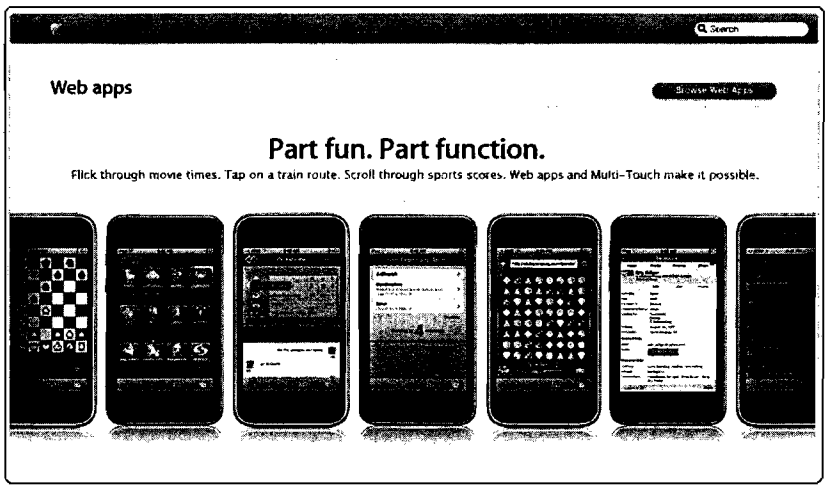

Web apps
Part fun. Part function.
Flick through movie times. Tap on a train route. Scroll through sports scores. Web apps and Multi-Touch make it possible.

Figure 3-27 Apple started the Web apps craze and today millions of adults, students, and children as young as 3 years old are interacting with thousands of Web apps.

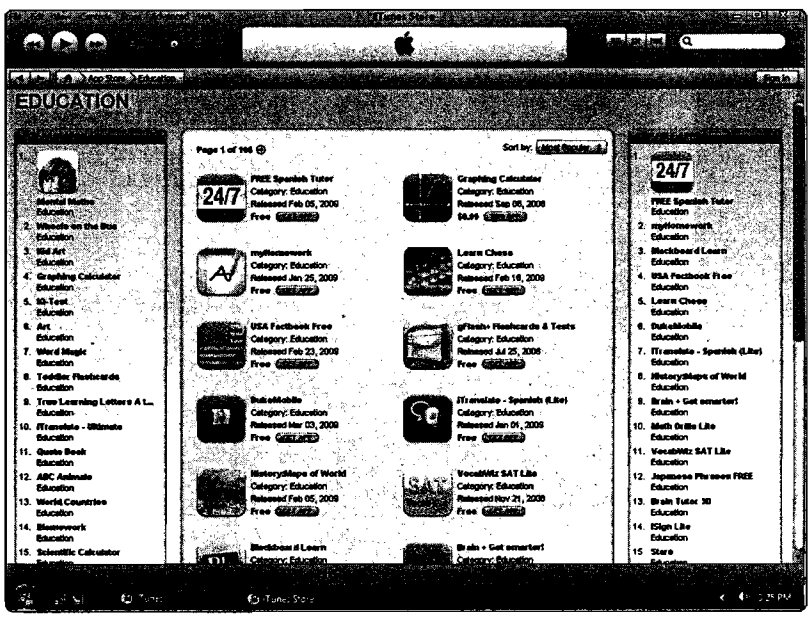


Figure 3-28 Thousands of Web apps, including education applications are now available at many Web sites like BlackBerry App World or iTunes.

Education Software for PDAs and Smartphones

Application	Description	Examples	Web Links
Teacher Management Tools	Tools that manage grading, attendance, rosters, curriculum standards, planning, assessment, reporting, contact information, and more.	• eStandards (Media-X) • Tracker and Seeker • Handango Teacher Suite	www.media-x.com/products/estandards/index.php www.schoolid.com/ www.handango.com/
ERIC Reference List on PDAs	A bibliography presenting information on the educational uses of PDAs with Web links.	• Educational Resources Information Center (ERIC) search for CRIB on PDAs	www.eric.ed.gov/

Figure 3-29 Shown are just a few of the hundreds of ideas and software programs that can be used to benefit both students and teachers.

SOFTWARE SUITES

A software suite is a collection of individual application software packages sold as a single package. The most popular software suite used in businesses, universities, and K-12 schools is Microsoft Office available both for PCs and Macs (Figure 3-30). Microsoft Office 2007, the latest version of Office is available in a number of versions including Ultimate, Professional, Small Business, Standard, and a less expensive version for Home and Student.

For many school, home, and personal users, the capabilities of a less expensive software suite more than meet their needs. Popular inexpensive software suites include Microsoft Works for PCs and Apple iWork, formerly AppleWorks, for Macs (Figure 3-31). Microsoft Works contains word processing, spreadsheet, database, and communications software. Apple's iWork contains word processing, spreadsheet, paint, and presentation software.

When you install a suite, you install the entire collection of applications at once,

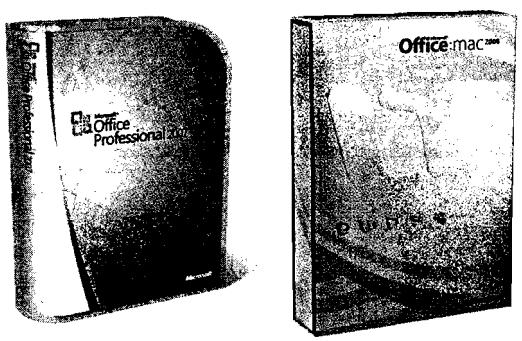


Figure 3-30 Microsoft Office is available in versions for both PCs and Macs.

Figure 3-31 Apple iWork is available for Macs.

rather than installing each application individually. At a minimum, comprehensive suites, like Microsoft Office, typically include word processing, spreadsheet, database, and presentation graphics. Each application in a software suite is designed specifically to work as part of a larger set of applications and to share common features.

Software suites offer two major advantages: lower cost and ease of use. Typically, buying a collection of software packages in a suite costs significantly less than purchasing the application packages separately. Software suites provide ease of use because the applications within a suite normally use a similar interface and have some common features. Thus, after you learn how to use one application in the suite, you are familiar with the interface of other applications in the suite. For example, after you learn how to print using the suite's word processing program, you can apply the same skill to the spreadsheet, database, and presentation graphics programs in the suite.

Graphics and Multimedia Software

In addition to productivity software, many individuals also work with software designed specifically for their fields of work. For example, engineers, architects, publishers, and graphic artists often use powerful software that allows them to work with graphics and multimedia. Types of graphics and multimedia software include desktop publishing software, paint/image editing software, clip art/image gallery, multimedia authoring tools, video and audio editing software, Web page authoring software, and many others. The features and functions of some of these applications are discussed in the following sections.

DESKTOP PUBLISHING SOFTWARE

Desktop publishing (DTP) software allows you to design, produce, and deliver sophisticated documents that contain text, graphics, and brilliant colors. Although many word processing packages have some of the capabilities of DTP software, professional designers and graphic artists use DTP software because it is designed specifically to support page layout, which is the process of arranging text and graphics in a document. DTP software is ideal for the production of high-quality color documents, such as newsletters, marketing literature, catalogs, and annual reports. In the past, documents of this type were created by slower, more expensive traditional publishing methods, such as typesetting. Today's DTP software also allows you to convert a color document into a format for use on the World Wide Web.

Many home, school, and small business users use a much simpler, easy-to-understand DTP software designed for individual desktop publishing projects. Using this DTP software, you can create newsletters and brochures, postcards and greeting cards, letterhead and business cards, banners, calendars, logos, and other such documents (Figure 3-32). Personal DTP software guides you through the development of these documents by asking a series of questions, offering numerous predefined layouts, and providing standard text you can add to documents. As you enter text, the personal DTP software checks your spelling. You can print your finished publications on a color printer or place them on the Web.

FAQ

I cannot open some files on the Web, including brochures, applications, education articles, and reports. Why?

To open a file, you must have the same application the file was created with unless the file has been saved using the Adobe PDF format. The PDF format allows readers to view a document even when they do not have the same program used to create the document. To view and print a PDF file, simply download the free Adobe Acrobat Reader software from the Adobe Web site (*adobe.com*).

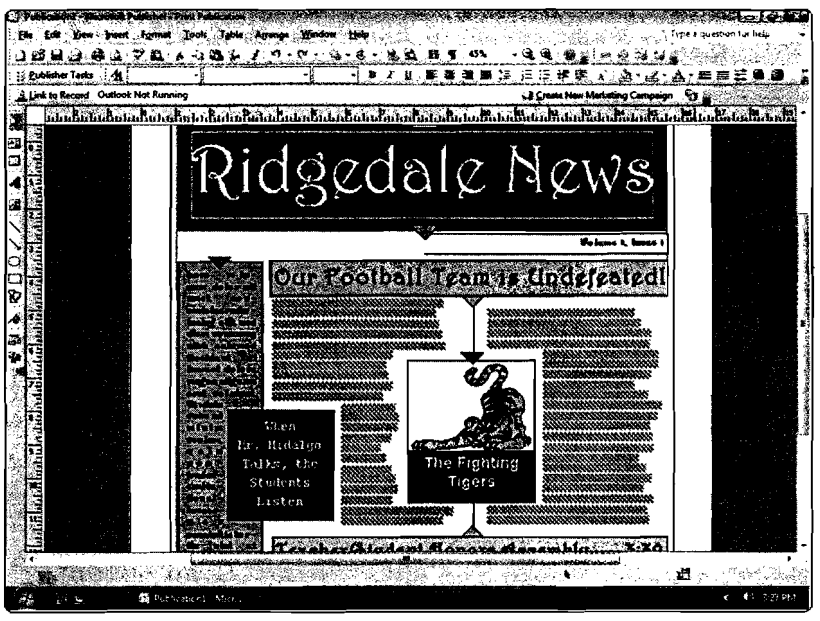


Figure 3-32 Teachers and students use desktop publishing software, such as Microsoft Publisher, to create flyers, certificates, newsletters, and other types of documents.

Integration Strategies

To learn more about how to use Adobe Photoshop Elements with your students, visit the Teachers Discovering Computers Web site (scsite.com/tdc) and click a link under Paint/Image Editing Software.

PAINT/IMAGE EDITING SOFTWARE

Graphic artists, multimedia professionals, desktop publishers, and many others use paint software and image editing software to create and modify graphics (Figure 3-33), such as those used in DTP documents and Web pages. Paint software allows you to draw pictures, shapes, and other graphics using various tools on the screen, such as a pen, brush, eye dropper, and paint bucket. Image editing software provides the capabilities of paint software as well as the capability of modifying existing graphics. For example, you can retouch photographs, adjust or enhance image colors, and add special effects such as shadows and glows.

Many home, school, and small business users opt for personal paint/image editing software. Personal paint/image editing software provides a much easier-to-use interface and usually has simplified capabilities, with functions tailored to the needs of the home and small business user. Personal paint/ image editing software includes various simplified tools that allow you to draw pictures, shapes, and other graphics. Professional paint/image editing software provides more sophisticated tools for drawing and modifying pictures, shapes, and other images.

One popular type of image editing software, called photo editing software, allows you to edit digital photographs by removing red-eye, adding special effects, or creating electronic photo albums. When the photograph is complete, you can print it on labels, calendars, business cards, and banners; or place it on a Web page. Popular photo editing programs used by educators include Photo Story and iPhoto.

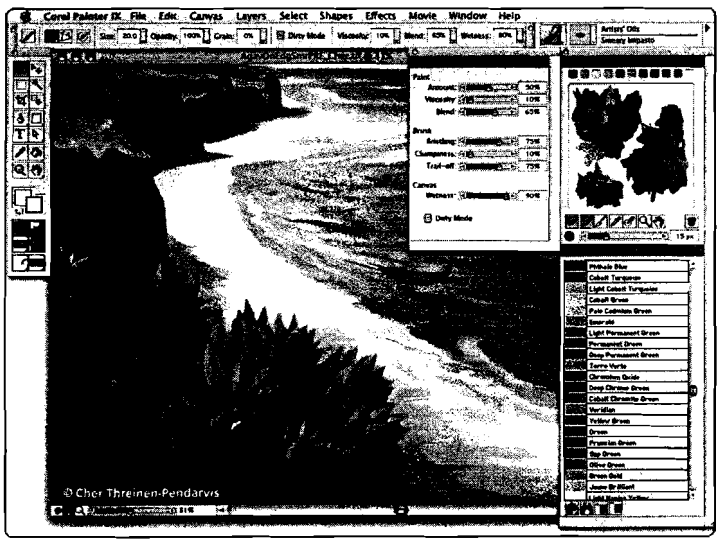


Figure 3-33 With image editing software, users can create and modify a variety of graphic images.

CLIP ART/IMAGE GALLERY

Although many applications include clip art, you may find that you want a wider selection of graphics. One way to obtain them is to purchase a clip art/image gallery, which is a collection of clip art and photographs. In addition to clip art, many clip art/image galleries provide fonts, animations, sounds, videos, and audio files (Figure 3-34). You can use the images, fonts, and other items from the clip art/ image gallery in all types of documents, such as letters, flyers, and class projects.

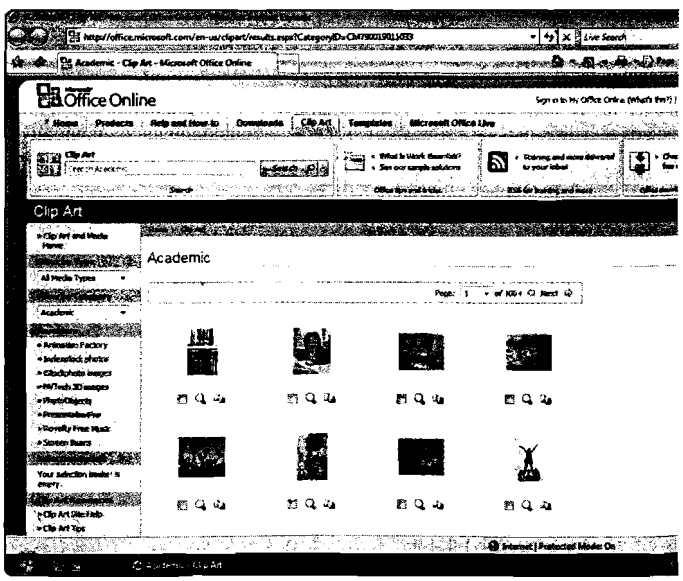


Figure 3-34 Clip art/image galleries provide thousands of clip art images and photographs for use in documents such as lette newsletters, greeting cards, class projects, and presentations.

MULTIMEDIA AUTHORING SOFTWARE

Multimedia authoring software is used to create electronic presentations, simulations, and software demonstrations that can include text, graphics, video, audio, animation, and screen captures. While many multimedia authoring software programs are available, two popular programs used by educators are Camtasia Studio and Adobe Captivate. These easy to use multimedia authoring programs help educators create video presentations. Educators can use these programs even if they do not have programming knowledge or multimedia skills.

Camtasia Studio is a great solution for recording, editing, and sharing high-quality videos on the Web, CDs, DVDs, and portable media players, including Apple's iPod and Microsoft's Zune. Adobe Captivate allows users to create engaging and interactive Flash videos. You will learn more about Camtasia Studio in the special feature that follows this chapter, *Creating Web Pages, Blogs, Wikis, and More.*

Integration Strategies

To learn more about using and integrating various multimedia authoring software programs, visit the Teachers Discovering Computers Web site at *scsite.com/tdc*, click Chapter 3, and then click Digital Media Corner.

VIDEO AND AUDIO EDITING SOFTWARE

Video consists of full-motion images played back at various speeds. With video editing software, you can modify a segment of a video, called a clip (Figure 3-35). For example, you can add and remove clips, or add special effects like sounds, banners, credits, and more. Video editing programs normally allow you either to edit or add audio components. Current PC and Macintosh computers include extensive audio and video editing capabilities; you and your students can even make your own videos. Popular programs used by educators include iMovie, iLife, Movie Maker, and Final Cut.

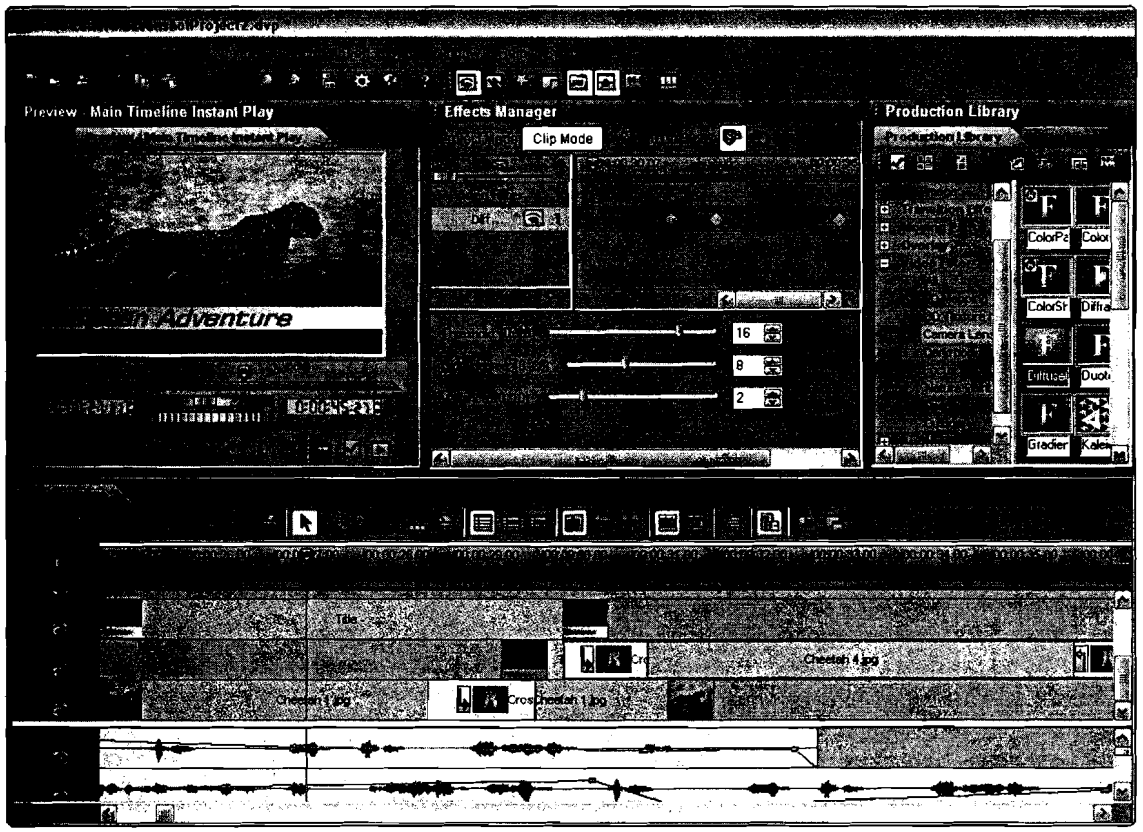


Figure 3-35 Users can use video editing software to modify video images.

WEB PAGE AUTHORING SOFTWARE

Web page authoring software is designed specifically to help you create Web pages, in addition to organizing, managing, and maintaining Web sites. As noted in previous sections, many application software packages include Web page authoring features that you can use to create Web pages and Web sites or that you can use to save a document as a Web page. For example, Figure 3-36 shows you how to convert a word processing document into the standard document format for the World Wide Web automatically by saying it as a Web page. After being saved, the document can be published to the Web and viewed in any Web browser. Word processing programs, for example, contain enough features to satisfy the formatting and layout needs of teachers and students for building curriculum pages and other Web documents, as shown in Figure 3-37. A **curriculum page** is a teacher-created document containing hyperlinks to teacher-selected Web sites that assist in teaching content-specific standards and objectives. Students can access teacher-created curriculum pages from home, school, the public library, or anyplace they are connected to the Internet. The ability to access these resources from such a wide variety of places provides students with just-in-time support.

Web page authoring software features allow you to create sophisticated multimedia Web pages that include graphics, video, audio, animation, and other special effects. Most word processors can be used to create Web pages. Other popular programs used by teachers and students to develop Web pages include Microsoft Publisher, Microsoft Expressions Web, WebBlender 2, and Adobe Dreamweaver. Many of these companies provide resources, tutorials, and more for teachers and students (Figure 3-38 on the next page).

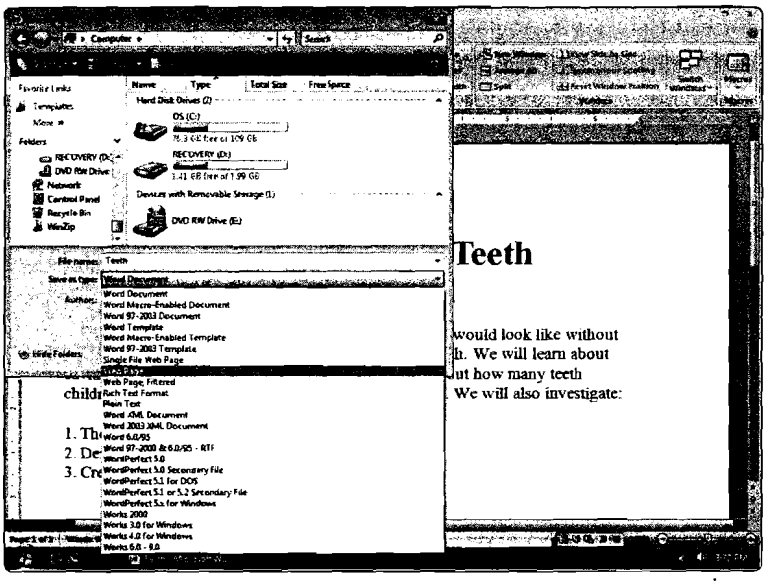


Figure 3-36 The figure shows you how to convert a word processing document automatically into the standard document format for the World Wide Web by saving it as a Web page. After being saved, the document can be published to the Web and viewed in any Web browser.

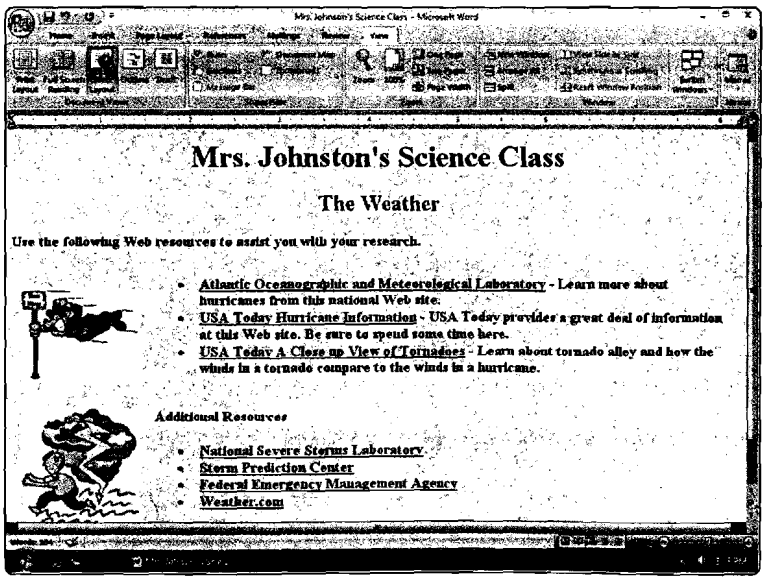

Mrs. Johnston's Science Class
The Weather
Use the following Web resources to assist you with your research.
Atlantic Oceanographic and Meteorological Laboratory - Learn more about hurricanes from this national Web site.
USA Today Hurricane Information - USA Today provides a great deal of information at this Web site. Be sure to spend some time here.
USA Today A Close up View of Tornadoes - Learn about tornado alley and how the winds in a tornado compare to the winds in a hurricane.
Additional Resources
National Severe Storms Laboratory
Storm Prediction Center
Federal Emergency Management Agency
Weather.com

Figure 3-37 An example of a teacher-created curriculum page.

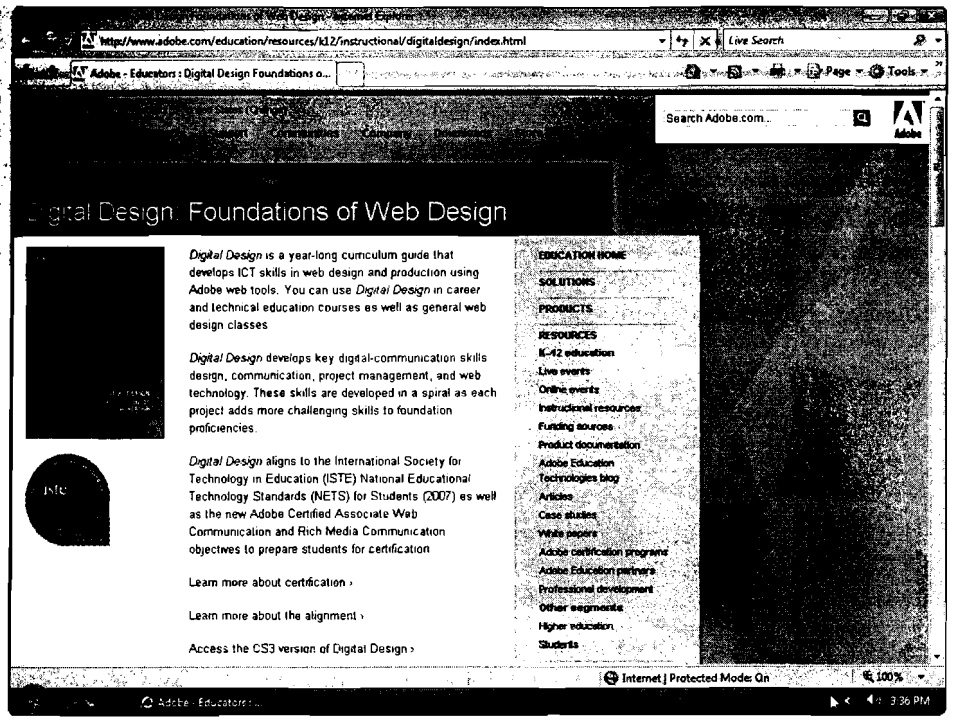

http://www.adobe.com/education/resources/k12/instructional/digitaldesign/index.html
Live Search
Adobe - Educators : Digital Design Foundations o...
Search Adobe.com
Digital Design: Foundations of Web Design
Digital Design is a year-long curriculum guide that develops ICT skills in web design and production using Adobe web tools. You can use Digital Design in career and technical education courses as well as general web design classes.
Digital Design develops key digital-communication skills design, communication, project management, and web technology. These skills are developed in a spiral as each project adds more challenging skills to foundation proficiencies.
Digital Design aligns to the International Society for Technology in Education (ISTE) National Educational Technology Standards (NETS) for Students (2007) as well as the new Adobe Certified Associate Web Communication and Rich Media Communication objectives to prepare students for certification.
Learn more about certification ›
Learn more about the alignment ›
Access the CS3 version of Digital Design ›
EDUCATION HOME
SOLUTIONS
PRODUCTS
RESOURCES
K-12 education
Live events
Online events
Instructional resources
Funding sources
Product documentation
Adobe Education
Technologies blog
Articles
Case studies
White papers
Adobe certification programs
Adobe Education partners
Professional development
Other segments
Higher education
Students
Internet | Protected Mode: On
100%
3:36 PM

Figure 3-38 Most popular Web page authoring programs provide resources, courses, tutorials, and more for teachers and students. In addition, many companies like Adobe provide curriculum and Web design ideas for teachers.

Web Info

For tips on using Adobe Dreamweaver, visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, click Web Info, and then click Dreamweaver.

Software for School Use

Many school districts have undergone a period of transition in how they maintain student records and other pertinent information. An important factor driving this transition is the installation of networks.

Having networks in schools allows schools to manage and maintain information about students and teachers in a centralized way. At the lower technological end, some schools still maintain all student records manually or in software programs on individual computers. Teachers and other school personnel then periodically input student records manually into student management software that stores grades and attendance records. At the higher technological end, some schools maintain district-wide student management programs.

Software for schools and professional use includes school management software, student management software, grade book software, educational and reference software, and software for students with special needs. Each of these types of software are discussed in more detail in the sections that follow.

SCHOOL AND STUDENT MANAGEMENT SOFTWARE

Schools that have networked at least one computer in each classroom usually install school and student management software. When standardized throughout the school district, these programs can improve a school's ability to manage and analyze daily operations, budgets, and student information dramatically.

School management software is a centralized program that allows district and school personnel to manage the school district operations, such as budgeting, inventory, technology, and expenses. Most school management software packages allow a school district to keep a database of all district assets, salaries and benefits, and food services inventory; manage other school and department budgets; and track transportation vehicle maintenance and use. Some school management software also includes databases for attendance and other student information and has other functions similar to student management software. **Student management software** is a centralized program that allows administrators, teachers, and other staff to manage and track information about students, which includes attendance and academic records.

Recall from Chapter 2, Washington County Public Schools has networked all of its classroom computers (Figure 3-39). Teachers throughout the district enter attendance information into the district's student management software program shortly after classes begin. Within a few minutes, district and school administrators know exactly how many students are present. Teachers also enter student grades into the same grade book and attendance program installed on all district computers. Record keeping at Washington County Schools is fully automated.

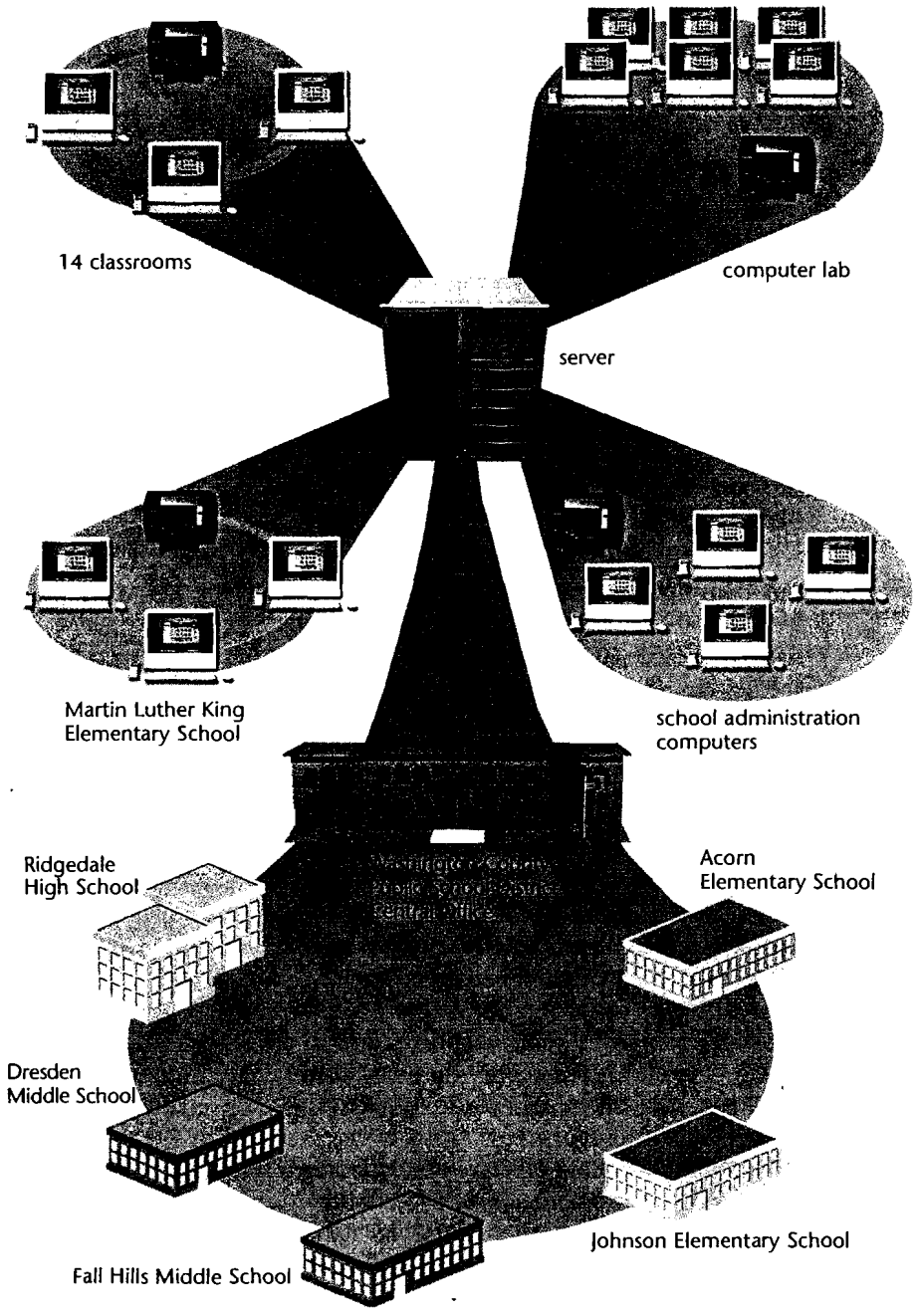


Figure 3-39 Washington County Public Schools use the district's wide area network that connects all district classrooms to track student attendance records, grades, and more.

GRADE BOOK SOFTWARE

Grade book software allows teachers to track and organize student tests, homework, lab work, and other scores. Most grade book software allows you to track thousands of students and hundreds of assignments within the same grade book and sort students by name, student number, or current average. Most programs allow teachers to weight various scores automatically, apply grading curves, adjust letter grade cutoffs, or use a customized grading scale, such as Fair, Good, Excellent, and so on. Grades can be displayed and entered as points, percentages, letter grades, or in a customized grading scale.

Grade book software also integrates with other software packages. Schools that use network-based or online testing programs, for example, can import student scores directly into the grade book. Teachers also can import and export grades and rosters to a word processing, spreadsheet, or database program.

At some schools, teachers enter attendance and student grades into the same grade book program, which is installed on all district computers. Not all schools have one district-wide grade book program for teachers to use, however, so many teachers choose their own grade book program. Numerous outstanding grade book and attendance programs are available for teachers. Some of these are shareware programs; others have trial versions that you can download from the Web for evaluation purposes. Popular grade book programs include Engrade, MicroGrade, GradeQuick, WebGrader, Easy Grade Pro, and Gradebook Plus. You also can create a basic grade book using the wizards and templates in Microsoft Excel, Apple iWork, and other programs (Figure 3-40).

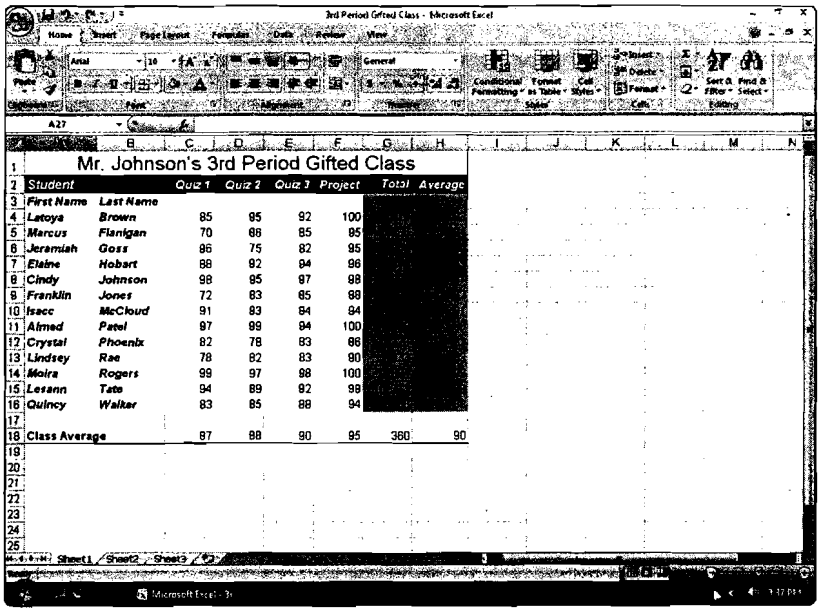

Mr. Johnson's 3rd Period Gifted Class
Student
Quiz 1
Quiz 2
Quiz 3
Project
Total
Average
First Name
Last Name
Latoya Brown 85 95 92 100
Marcus Flanigan 70 88 85 95
Jeremiah Goss 86 75 82 95
Elaine Hobart 88 92 94 96
Cindy Johnson 98 95 97 98
Franklin Jones 72 83 85 88
Isaac McCloud 91 83 94 94
Ahmed Patel 97 99 94 100
Crystal Phoenix 82 78 83 88
Lindsey Rae 78 82 83 90
Moira Rogers 99 97 98 100
Lesann Tate 94 89 92 98
Quincy Walker 83 85 88 94
Class Average 87 88 90 95 360 90

Figure 3-40 An example of a grade book that teachers can create using Microsoft Excel.

Web Info

For information about grade book programs, visit the Teachers Discovering Computers Web site (scsite.com/tdc), click Chapter 3, click Web Info, and then click a link below the heading.

EDUCATIONAL AND REFERENCE SOFTWARE

Educational software supports learning objectives and goals. Educational software exists for just about any subject, from learning a foreign language to learning how to cook. Preschool to high school learners can use educational software to assist them with subjects such as reading and math or to prepare them for class or college entrance exams.

Educational software is covered in greater depth in later chapters. You also can find information about Web links to dozens of popular educational software programs in Software Corner and Digital Media Corner at the end of each chapter.

Reference software (Figure 3-41) provides valuable and thorough

FAQ

Are Britannica Reference Suite and other popular reference software programs available on CD and DVD?

Yes, and the expanded storage capacity of CDs and DVDs allows manufacturers to add extensive, high-quality video segments, animations, graphics, and more.

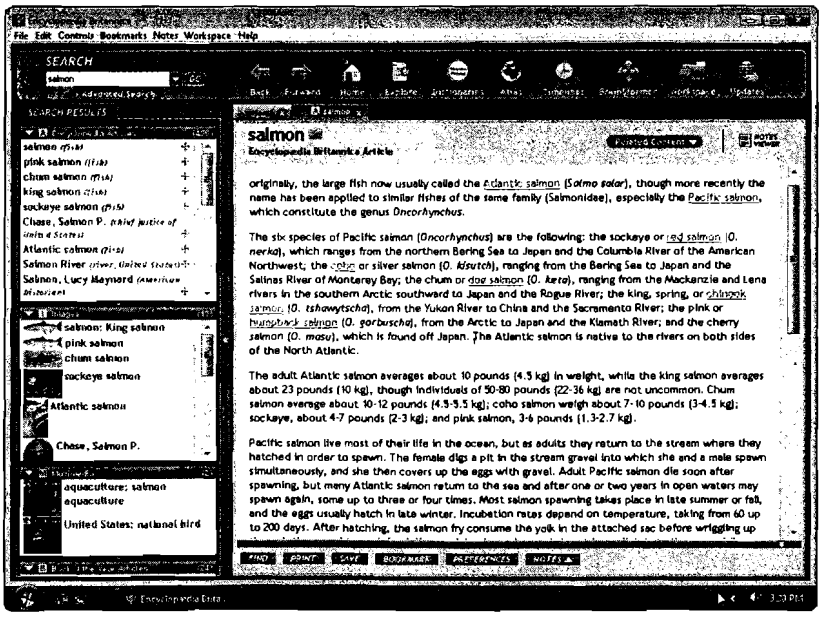

SEARCH
salmon
Encyclopedia Britannica Article
originally, the large fish now usually called the Atlantic salmon (Salmo salar), though more recently the name has been applied to similar fishes of the same family (Salmonidae), especially the Pacific salmon, which constitute the genus Oncorhynchus.
The six species of Pacific salmon (Oncorhynchus) are the following: the sockeye or red salmon (O. nerka), which ranges from the northern Bering Sea to Japan and the Columbia River of the American Northwest; the coho or silver salmon (O. kisutch), ranging from the Bering Sea to Japan and the Salinas River of Monterey Bay; the chum or dog salmon (O. keta), ranging from the Mackenzie and Lena rivers in the southern Arctic southward to Japan and the Rogue River; the king, spring, or chinook salmon (O. tshawytscha), from the Yukon River to China and the Sacramento River; the pink or humpback salmon (O. gorbuscha), from the Arctic to Japan and the Klamath River; and the cherry salmon (O. masu), which is found off Japan. The Atlantic salmon is native to the rivers on both sides of the North Atlantic.
The adult Atlantic salmon averages about 10 pounds (4.5 kg) in weight, while the king salmon averages about 23 pounds (10 kg), though individuals of 50-80 pounds (22-36 kg) are not uncommon. Chum salmon average about 10-12 pounds (4.5-5.5 kg); coho salmon weigh about 7-10 pounds (3-4.5 kg); sockeye, about 4-7 pounds (2-3 kg); and pink salmon, 3-6 pounds (1.3-2.7 kg).
Pacific salmon live most of their life in the ocean, but as adults they return to the stream where they hatched in order to spawn. The female digs a pit in the stream gravel into which she and a male spawn simultaneously, and she then covers up the eggs with gravel. Adult Pacific salmon die soon after spawning, but many Atlantic salmon return to the sea and after one or two years in open waters may spawn again, some up to three or four times. Most salmon spawning takes place in late summer or fall, and the eggs usually hatch in late winter. Incubation rates depend on temperature, taking from 60 up to 200 days. After hatching, the salmon fry consume the yolk in the attached sac before wriggling up

Figure 3-41 Reference software provides valuable and thorough information for all types of users. For example, Britannica includes articles, lesson plans, pictures, and videos on thousands of topics.

information for everyone in an educational setting and in the family. Popular reference software includes encyclopedias, dictionaries, health/medical guides, and travel directories. Chapter 5 covers many types of educational and reference software applications and discusses their features in detail.

Web Info

For more information about a popular and free text-to-speech software program, visit the Teachers Discovering Computers Web site (scsite.com/tdc), click Chapter 3, click Web Info, and then click ReadPlease.

SPECIAL NEEDS SOFTWARE

Special needs software, also called assistive technologies software, is designed specifically for students with physical impairments or learning disabilities to assist them in completing school assignments and everyday tasks (Figure 3-42). Special needs software includes such programs as speech synthesis software, text enlargement programs, talking calculators, and more.

Today, teachers have many software options available to use as tools to enhance teaching and learning of students with special needs. Many software applications discussed in this chapter and educational multimedia applications discussed in Chapter 5 also can be used to assist students with special needs. When students use these software programs in combination with assistive devices, such as touch screens and adaptive keyboards, their ability to succeed increases. These and other special input and output devices designed for use by students with special needs are discussed in Chapter 4. Examples of how teachers can integrate special needs software into their curriculum are covered in Chapters 5–7.

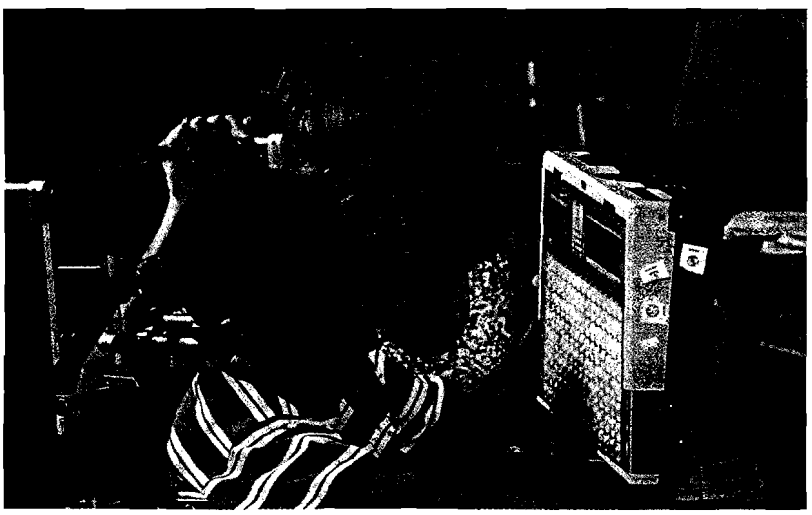


Figure 3-42 Using assistive technologies software, teachers help students with disabilities learn subject-related content.

Recall that the textbook Web site includes an end-of-chapter section called Integration Corner. Included with Integration Corner for each chapter is Special Education Corner, where you will find dozens of links to special needs software programs and information on how other teachers are integrating technology to help special needs students. Finally, the Assistive Technologies Corner at the end of this chapter and on the Web provides extensive information and links to special needs software programs.

Software for Home and Personal Use

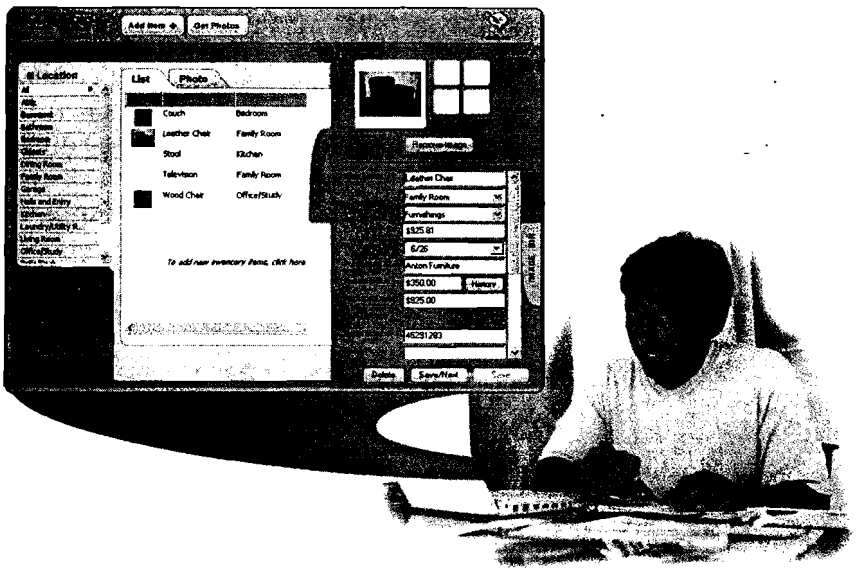
Many software applications are designed specifically for home or personal use. Personal software includes personal finance software, tax preparation software, legal software, entertainment software, and more. Most of the products in this category are relatively inexpensive, often priced at less than $50. The features and functions of some of these applications are discussed in the following sections.

PERSONAL FINANCE SOFTWARE

Personal finance software is a simplified accounting program that helps you pay bills, balance your checkbook, track your personal income and expenses, such as credit card bills, track investments, evaluate financial plans, and maintain a home inventory (Figure 3-43). Popular personal finance software includes Quicken and Microsoft Money.

Using personal finance software can help you determine where, and for what purpose, you are spending money so you can manage your finances. Reports can summarize transactions by category (such as dining), by payee (such as the electric company), or by billing period (such as the last two months). Bill-paying features include the ability to print checks on your printer or have an outside service print your checks.

Personal finance software packages usually offer a variety of online services, which require access to the Web. For example, you can track your investments



FAQ

How many people bank online?

The number of people banking online is approaching 50 million with that number expected to continue growing.

Figure 3-43 Many home users work with personal finance software to assist them with tracking personal expenses, paying bills, maintaining a home inventory, and more.

online, compare insurance rates from leading insurance companies, and even do your banking online. **Online banking** offers access to account balances, provides bill payment services, and allows you to download transactions and statements from the Web directly to your computer. In addition, with online banking, you can transfer money electronically from your checking to savings or vice versa. To obtain current credit card statements, bank statements, and account balances, you download transaction information from your bank using the Web.

Financial planning features include analyzing home and personal loans, preparing income taxes, and managing retirement savings. Other features in many personal finance packages include budgeting and tax-related transactions.

TAX PREPARATION SOFTWARE

Tax preparation software guides individuals, families, or small businesses through the process of filing federal taxes (Figure 3-44). Popular tax preparation software includes TurboTax and TaxCut. These software packages offer money-saving tax tips, designed to lower your tax bill. After you answer a series of questions and complete basic forms, the tax preparation software creates and analyzes your tax forms to search for potential errors and missed deduction opportunities. After the forms are complete, you can print any necessary paperwork. Most tax preparation software packages easily allow you to file your tax forms electronically for a small fee — an increasingly popular option.

Figure 3-44 Tax preparation software can assist you in preparing your federal and state tax returns efficiently and accurately. You even can file your return electronically using the Internet.

Web Info

For more information on legal software, visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, click Web Info, and then click Legal Software.

LEGAL SOFTWARE

Legal software assists in the preparation of legal documents and provides legal advice to individuals, families, and small businesses. Legal software provides standard contracts and documents associated with buying, selling, and renting property; estate planning; and preparing a will (Figure 3-45). By answering a series of questions or completing a form, the legal software tailors the legal document to your needs.

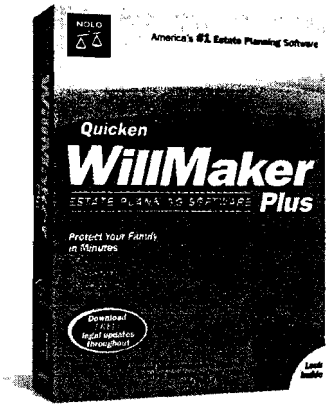


Figure 3-45 Legal software provides legal advice to individuals, families, and small businesses and assists in the preparation of legal documents.

After the legal document is created, you can file the paperwork with the appropriate agency, court, or office; or you can take the document to your attorney for her review and signature.

ENTERTAINMENT SOFTWARE

Entertainment software includes interactive games, videos, and other programs designed to support a hobby or just provide amusement and enjoyment. For example, you can use entertainment software to play games, make a family tree, compose music, or simulate flying an aircraft.

Learning Aids and Support Tools

Learning how to use an application software package effectively involves time and practice. To aid you in that learning process, your school may offer professional development classes or in-service workshops. In addition to these learning opportunities, many software applications and Web sites provide Help, tutorials, and FAQs. Thousands of books also are available to help you learn specific software packages. Many tutorials are packaged with software or are available free on the Web.

USING HELP

Help is the electronic equivalent of a user manual; it usually is integrated into an application software package (Figure 3-46). Help provides assistance that can increase your productivity and reduce your frustrations by minimizing the time you spend learning how to use an application software package.

In most programs, a function key or a button on the screen starts the Help feature. When using a program, you can use the Help feature to ask a question or access the Help topics in subject or alphabetical order. In most cases, Help has replaced the user manual altogether, which means software developers no longer include user manuals with the software.

Most Help also links to Web sites that offer Web-based Help, which provides updates and more comprehensive resources

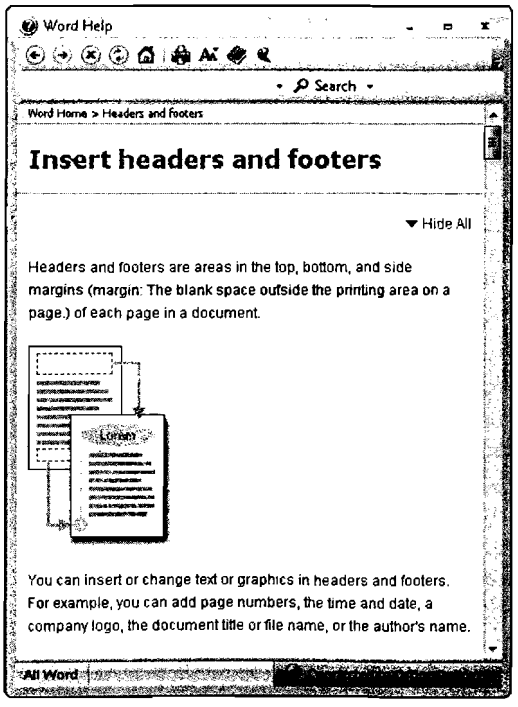

Word Help
Search
Word Home > Headers and footers
Insert headers and footers
Hide All
Headers and footers are areas in the top, bottom, and side margins (margin: The blank space outside the printing area on a page.) of each page in a document.
You can insert or change text or graphics in headers and footers. For example, you can add page numbers, the time and date, a company logo, the document title or file name, or the author's name.
All Word

Figure 3-46 Help provides assistance from within your application or by connecting to the Internet and accessing Web-based help if the computer is connected to the Internet.

in response to both technical and non-technical issues about software. You can often search Help Web sites for answers to your questions, which you can enter in complete sentences or simply using keywords. Some Help Web sites contain chat rooms, in which a user can talk directly with a technical support person or join a conversation with other users who may be able to answer questions or solve problems.

OTHER LEARNING RESOURCES

If printed documentation is included with a software package, often it is organized as reference material rather than structured for learning. This makes it helpful after you know how to use a package, but difficult to use when you are first learning. For this reason, many trade books are available to help you learn to use the features of software application packages. These books are available where software is sold, in regular bookstores (Figure 3-47), or online. Web pages that contain an FAQ (frequently asked questions) section about application software abound on the Internet and help you find answers to common questions.

Tutorials are step-by-step instructions using real examples that show you how to use an application. Some tutorials are printed manuals; others are software-based or Internet-based, thus allowing you to use your computer to learn about an application software package.

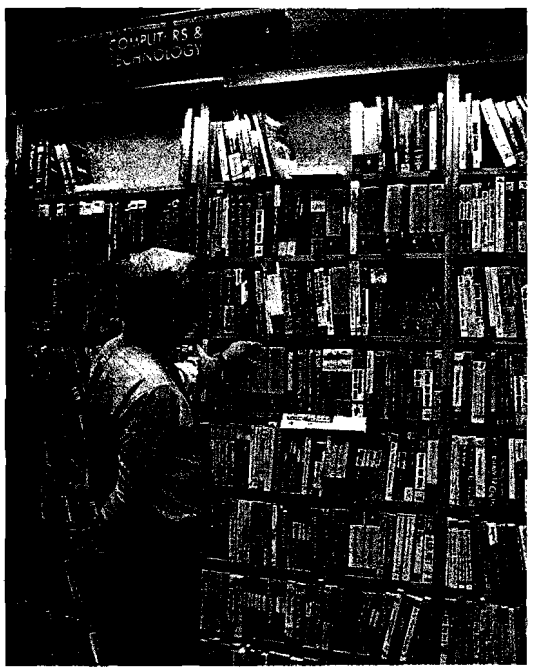


Figure 3-47 Many bookstores sell trade books to help you learn to use the features of personal computer application packages.

Many colleges and K-12 school districts provide training on many of the applications discussed in this chapter. If you want more direction than is provided in Help, trade books, FAQs, and tutorials, contact your college or school district for a list of workshops and continuing education courses that they offer.

In addition to those discussed here, many other software programs are available for use in schools, homes, and businesses. In the following chapters, you will learn more about other types of educational software, including how-to guides, computer-assisted instructional software, educational games, tutorials, educational simulations, multimedia authoring software, as well as multimedia applications.

Software Versions and Upgrades

Software programs, including operating systems, usually are designated by a version number. A new version of a software product designed to replace an older version of the same product is called an upgrade. As software manufacturers develop a newer version of a software package, the newer version usually is assigned higher numbers.

Most manufacturers designate major software releases by increasing the version number by a whole number, for example, version 4.0 to 5.0. To designate minor software improvements, manufacturers usually change the version number by less than a whole number change, such as version 4.0 to 4.2.

Sometimes manufacturers switch their naming convention. For example, Microsoft Office XP was replaced with Office 2003, which in turn was replaced with Office 2007. Similar versions of software can have different designations when used on Macs and PCs. Microsoft Office 2008 for Macintosh computers, for example, is basically the same as Microsoft Office 2007 for Windows computers.

If not prompted automatically by your operating system or software program, you should check periodically for critical updates to your operating system and other software programs. Most critical updates and minor software upgrades are usually free of charge.

USING DIFFERENT SOFTWARE VERSIONS

Because of the cost of software, most schools do not upgrade their software each time a manufacturer releases a new version. When schools purchase new computers, however, the latest versions of operating systems and application software often are preinstalled on the computers.

Teachers and students should know which versions of software applications are installed on their school, classroom, and home computers. Many software programs include an About or Information command on the Help menu to indicate the software version. Often, teachers and students have different versions of the same software on their home and classroom computers; a teacher might have PowerPoint 2003 on an older classroom computer and PowerPoint 2007 on a new home computer.

When working with different versions of the same software, two general rules can help make your work easier. First, an older version of a software package may not open a file created in a newer version of the software. Second, newer versions usually open files created in older versions.

To help alleviate the first problem, most software programs allow you to save a document in a format compatible with earlier versions of the same software or in a different file format that can be read by another software program.

MICROSOFT OFFICE 2007 Microsoft Office 2007 introduced new file formats called Microsoft Office Open XML Formats. These formats are based on XML. The new file formats are applied to Word 2007, Excel 2007, and PowerPoint 2007. Figure 3-48 summarizes some of the benefits of the Office Open XML Formats. File extension names also are different in Office 2007. For example, earlier versions of Word saved files with a .doc extension; the default extension for most Word 2007 files is .docx, where the "x" designates an XML file.

Benefit	Description
Compact Files	Files are automatically compressed and can be up to 75 percent smaller in some cases. The Office Open XML Formats use zip compression technology to store documents, offering potential cost savings as it reduces the disk space required to store files and decreases the bandwidth needed to send files via e-mail, over networks, and across the Internet. When you open a file, it is automatically unzipped. When you save a file, it is automatically zipped again.
Better Privacy and More Control Over Personal Information	Documents can be shared confidentially because personally identifiable information and business-sensitive information, such as author names, comments, tracked changes, and file paths can be easily identified and removed using the Document Inspector feature.

Figure 3-48 Some of the many benefits of Microsoft Office 2007 Open XML Formats.

Figure 3-49 summarizes the common file extension differences between Office 2007 and earlier versions of Office.

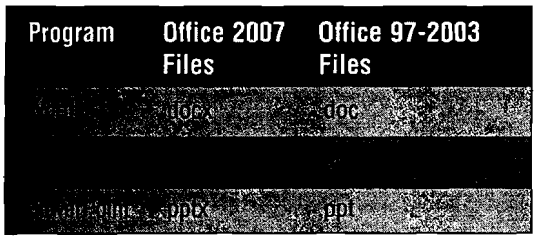


Figure 3-49 This figure shows the basic file extensions for Word, Excel, and PowerPoint 2007 compared to earlier versions of these programs.

Because of the new XML formats, earlier versions of Office will not automatically open Word, PowerPoint, and Excel files created in 2007 XML format. There are two options to solve this compatibility issue.

- You can save your Office 2007 file in the format that was used by earlier versions of Office. Figure 3-50 shows how to save a Word 2007 file in the earlier Word 97-2003 document or .doc format.

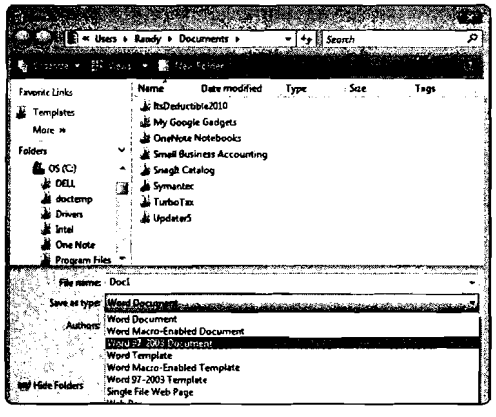


Figure 3-50 Using Microsoft Word 2007, you can save a Microsoft Word 2007 file in the format that was used by earlier versions of Word.

- You can open and edit a file created using Office 2007 in an earlier version of Word, Excel, or PowerPoint by downloading the necessary file converters. On the computer with an earlier version of Office, go to the Microsoft download center and download the 2007 Microsoft Office Compatibility Pack for Word, Excel, and PowerPoint File Formats. Important Note: For the converters to work, your version of Microsoft Office must already be updated with the latest service pack. You can check to see if your version of Office is current at the Microsoft download center and if not, you can download the latest service pack.

Web Info

To update earlier versions of Microsoft Office with the 2007 Compatibility Pack, visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, click Web Info, and then click Compatibility Pack.

Creating Web Pages, Blogs, Wikis, and More

At the end of this chapter is a special feature that provides you with access to links that provide instructions on how to create Web pages, blogs, wikis, and other digital tools that you can use with your digital students. The special feature that follows Chapter 7 provides you with additional skills, as you learn how to integrate Web pages, blogs, wikis, and more.

Summary of Application Productivity Tools for Educators

In this chapter, you learned about user interfaces and several software applications used in schools, businesses, and homes. You also read about some of the learning aids and support tools that are available for application software. Understanding these software applications increases your computer literacy and helps you to understand how personal computers can help in your career as a teacher, in your classroom instruction, and at home. The next chapter introduces you to computer hardware; future chapters provide information on additional software applications used by educators and show you how to integrate various software applications into your classroom curriculum.

Key Terms

INSTRUCTIONS: Use the Key Terms to help focus your study of the terms used in this chapter. To further enhance your understanding of the Key Terms in this chapter, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Key Terms on the left sidebar. Read the definition for each term and then access current and additional information about the term from the Web.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

address book [156]
Adobe Captivate [161]
Adobe Dreamweaver [162]
Apple iWork [158]
application program [138]
application software [138]
appointment calendar [156]
assistant [146]
assistive technologies software [166]
AutoSave [142]

beaming [156]
border [145]
button [140]

Camtasia Studio [161]
cell [148]
chart [149]
clip art [145]
clip art collection [145]
clip art/image gallery [151]
Clipboard [141]
command [140]
copy [141]
creating [141]
curriculum page [162]
cut [141]

database [149]
database file [150]
database software [149]
delete [141]
desktop [139]
desktop publishing (DTP) software [159]
dialog box [142]
digital pen [142]
document [140]

editing [141]
educational software [165]
entertainment software [168]

FAQ (frequently asked questions) [169]
field [150]
file [140]
filename [140]
find [145]
font [141]
font size [141]
font style [141]
footer [146]
formatting [141]
formula [148]
function [148]

grade book software [164]
graphical user interface (GUI) [138]

header [146]
Help [168]

icon [140]
image editing software [160]
import [145]
insert [141]

label [148]
legal software [168]
Linux [137]

MAC OS, version 9.1 [137]
MAC OS X [137]
margin [145]
menu [140]
Microsoft Expressions Web [162]
Microsoft Office Open XML Formats [170]
Microsoft Publisher [162]
Microsoft Windows [136]
Microsoft Works [158]
multimedia authoring software [161]

note taking software [142]
notepad [156]

online banking [167]
open source software [137]
operating system [136]

page layout [159]
paint software [160]
paste [141]
personal finance software [166]
personal information manager (PIM) [155]
photo editing software [160]
Pocket PC [156]
point [141]
presentation [151]
presentation graphics software [151]
printing [142]
productivity software [144]

record [150]
reference software [165]
replace [145]
saving [141]
school management software [163]
scrolling [145]
search [145]
slide sorter [152]
slide [151]
software package [138]
software suite [158]
special needs software [166]
speech recognition [142]
speech synthesis software [166]
spell checker [145]
spelling checker [145]
spreadsheet [147]
spreadsheet software [147]
student management software [163]
synchronize [156]
system software [136]

tax preparation software [167]
template [146]
title bar [140]
trade book [169]
tutorial [169]

UNIX [137]
upgrade [169]
user interface [138]

value [148]
version [169]
video [161]
voice recognition [142]

Web applications [157]
Web apps [157]
Web-based Help [168]
Web page authoring software [162]
WebBlender 2 [162]
window [140]
Windows 7 [137]
Windows Vista [137]
Windows XP [136]
wizard [146]
word processing software [144]
wordwrap [145]
worksheet [147]

Checkpoint

Instructions: Use the Checkpoint exercises to check your knowledge level of the chapter. To complete the Checkpoint exercises interactively, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Checkpoint on the left sidebar.

Exercises

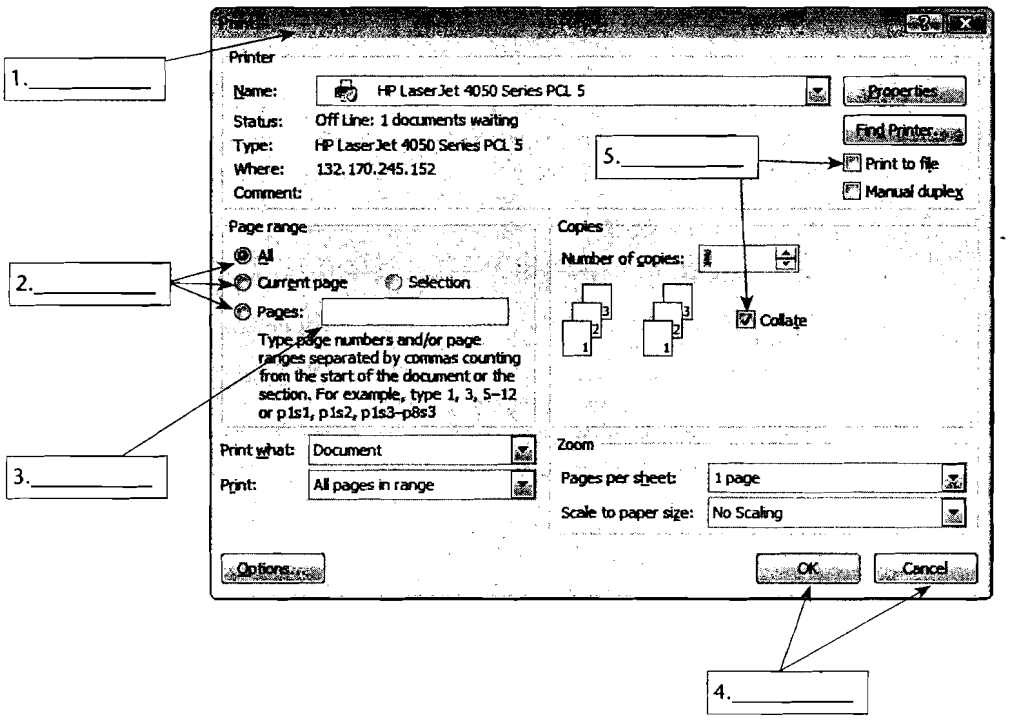
Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. Label the Figure

Instructions: Identify each component of the Print dialog box.



2. Matching

Instructions: Match each term from the column on the left with the best description from the column on the right.

___ 1. Clipboard
___ 2. database
___ 3. record
___ 4. command
___ 5. cell

a. collection of related fields
b. instructions that cause software to perform specific actions
c. temporary storage location
d. where a column and row meet
e. collection of data organized in a manner that allows access, retrieval, and use of that data

3. Short Answer

Instructions: Write a brief answer to each of the following questions.

1. What is a graphical user interface? Describe some common features of both the Windows and Macintosh graphical user interface.
2. Name and describe four different types of productivity software used by K-12 teachers. Which productivity software program do you use the most? Why?
3. What are the advantages of software suites? Describe three popular software suites used in K-12 schools.
4. What is a database? How are databases used in K-12 schools?
5. What are the advantages of using presentation graphics software programs? What are the disadvantages? How are teachers and students using presentation graphics programs?

Teaching Today

INSTRUCTIONS: Teaching Today provides teachers with integration strategies and ideas for teaching, and more importantly, reaching today's digital generation. Each numbered segment contains one or more links that reinforce the information presented in the segment. To display this page from the Web, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Teaching Today on the left sidebar.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

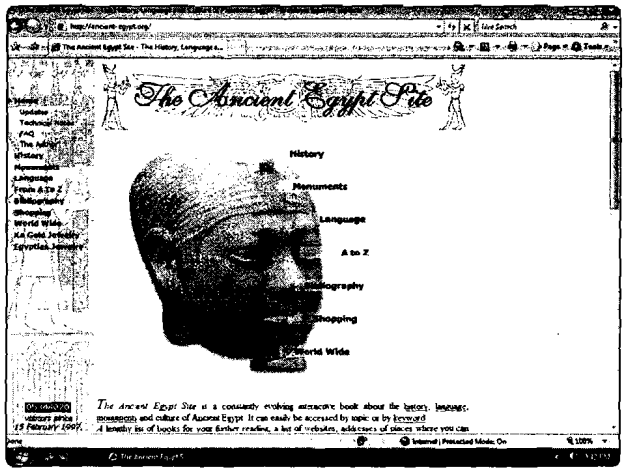
Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. Software Suites

Your school uses Macintosh computers. Your principal is considering purchasing Apple iWork for all new classroom and lab computers. You have never used Apple iWork; however, you are familiar with Microsoft Office for the Macintosh. Your principal also is interested in open source software, for example Google Docs or Open Office. He has asked you to compare the different software packages and make a presentation to the school's teachers. How are the packages the same? How are the packages different? What type of support does each software package offer? Is one easier to use than the other? Why or why not? Is one easier to learn than the other? Why or why not?

2. Build Interdisciplinary Projects



As an elementary teacher, you must teach all subjects to your students. You have decided to teach a variety of your grade-level skills using a project that is interdisciplinary, combining language arts, social studies, math, and science. You also have decided to integrate technology throughout the project not only to do research but also to help students learn to become better researchers, writers, and presenters. The topic of your project is Ancient Egypt. You start by using the Media Center to gather books, CDs, DVDs, reference materials, Web sites, and more. Develop a project focused on Ancient Egypt that uses the Internet, reference software, word processing software, your curriculum-specific software, and presentation graphics software. Where could you locate sample lesson plans to help you get started? Explain your plan to integrate these software applications into an interdisciplinary project that includes two or more curriculum areas.

3. Lesson Plans

Using the Internet in the classroom has numerous benefits for teachers, who can use it to find current information, online resources for lesson plans and Web-based projects, and interactive content that engages all types of learners. What are some other benefits of using the Internet in the classroom? Are there disadvantages or problems you might encounter in using Internet resources? How might you avoid or solve these problems?

4. Software Vendors

Most state Departments of Education negotiate one-year or multiyear contracts with various vendors for educational software products. This enables schools to acquire software products at substantial discounts. Contact a school in your district or access your state's Department of Education Web site and find out about a few of the software products available through the state purchasing program. Compare these prices with purchasing the same software either online or at a local computer store. What kind of discounts are the schools receiving? How many titles are available through the state catalog? What procedures does a teacher have to go through to purchase software not in the catalog?

Education Issues

INSTRUCTIONS: Education Issues provides several scenarios that allow you to explore controversial and current issues in education. Each numbered segment contains one or more links that reinforce the information presented in the segment. To display this page from the Web, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Education Issues on the left sidebar.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. Wikis and Education

Some wikis are tightly controlled with a limited number of contributors and expert editors, these usually focus on narrowly-defined, specialized topics. Large online wikis, such as Wikipedia, often involve thousands of editors, many of whom remain anonymous. Recently, an entry on Wikipedia was maliciously altered to suggest that a prominent journalist was involved in the assassination of John F. Kennedy. As the number of Wikis has grown and the source of the content is often unknown, some educators and librarians have shunned wikis as valid sources of research. Many wikis provide information stating they have adequate controls to correct false or misleading content. Citizendium, is a wiki project started by a founder of Wikipedia that aims to improve the credibility of wikis by requiring contributors to use their real names; although anyone still can change content. Should you allow your students to use wikis as valid sources for academic research? Why or why not? Would you allow your students to submit a paper to you that cites a wiki as a source? Why or why not? What policies could wikis enforce that could garner more confidence from the public?

2. Reading Problems

You teach middle school, and this year you have the most challenging group of students you have ever had. Many of your students seem completely uninterested in learning or even in coming to school for that matter. As a result, you have continuous discipline problems and spend a lot of time sending students to the principal's office. After a few days, you become convinced that a deeper problem must exist, so you do a little research and find out that many of the students are below the 30th percentile in reading. You wonder how these students got this far without knowing how to read. Traditional reading programs obviously have not worked for these students. Using the Internet and other sources, do research to find out whether reading software programs and educational technology might be able to help them. Continue your research to investigate alternative techniques using technology that might motivate these students and help them to learn to read. Try this reading Web site to locate appropriate software. Where could you locate additional software and innovative teaching strategies that could help you help these students learn to read?

3. Software Adoption and Adaptation

You come into your classroom after a long weekend to find new content-specific, learner-centered, and standards-based software has been loaded on your classroom computers and in the media center. You decide to ask around and see if anyone knows about this software — no one knows. You are aware that software designed to be learner-centered focuses on the needs of individuals and provides a valuable tool for creating instructional strategies, especially when teaching digital students. You are also aware of the fact that teachers are one of the single most important factors in adoption and effective integration of software in the classroom. What steps would you take to learn more about the software that was installed without your knowledge or prior input? How would you successfully implement the installed software in a content-specific area? What about teacher training? Do you think these kinds of decisions, such as software purchases, should be made with no teacher input? How can you work with the administration to make sure teachers are in the decision-making process? Think of ways you could help in changing the antiquated decision-making top-down process and alter the process to a bottom-up process — letting teachers have more say in what is purchased.

4. Computer Use in the Classroom

With the explosion of educational software, multimedia, digital media, and the Internet, educators still are learning the best use for computers in the classroom. Drill and practice? Problem solving? Games? A growing number of educators feel that students should be taught the software applications they will have to know to succeed in the workplace. From the applications presented in this chapter, make a list of five applications you think every student should learn, from more important to less important. Explain your ranking. At what level do you think each application should be taught? Why?

Integration Corner

INSTRUCTIONS: Integration Corner provides extensive ideas and resources for integrating technology into your classroom-specific curriculum. To display this page from the Web and its links to approximately 100 educational Web sites, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Integration Corner on the left sidebar.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

Integration Corner is designed for teachers and other educators who are looking for innovative ways to integrate technology into their content-specific curriculum. Integration Corner not only provides great Web sites with current information but also shows what other educators are doing in the field of educational technology. Integration Corner is designed for all educators regardless of their interests. Expand your resources by reviewing information and Web sites outside your teaching area because many great integration ideas in one area can be modified easily for use in other curricular areas.

Teachers and administrators will find other colleagues in their areas with whom to connect and share the successes and hurdles of integrating technology in a classroom or an entire school system. Consider Integration Corner your one stop for integration ideas and resources. Links to educational Web sites are organized in the following 12 Corners, and different Web resources are available for each chapter. Figure 3-51 shows examples of the Web resources provided in the Chapter 3 Middle School Corner.

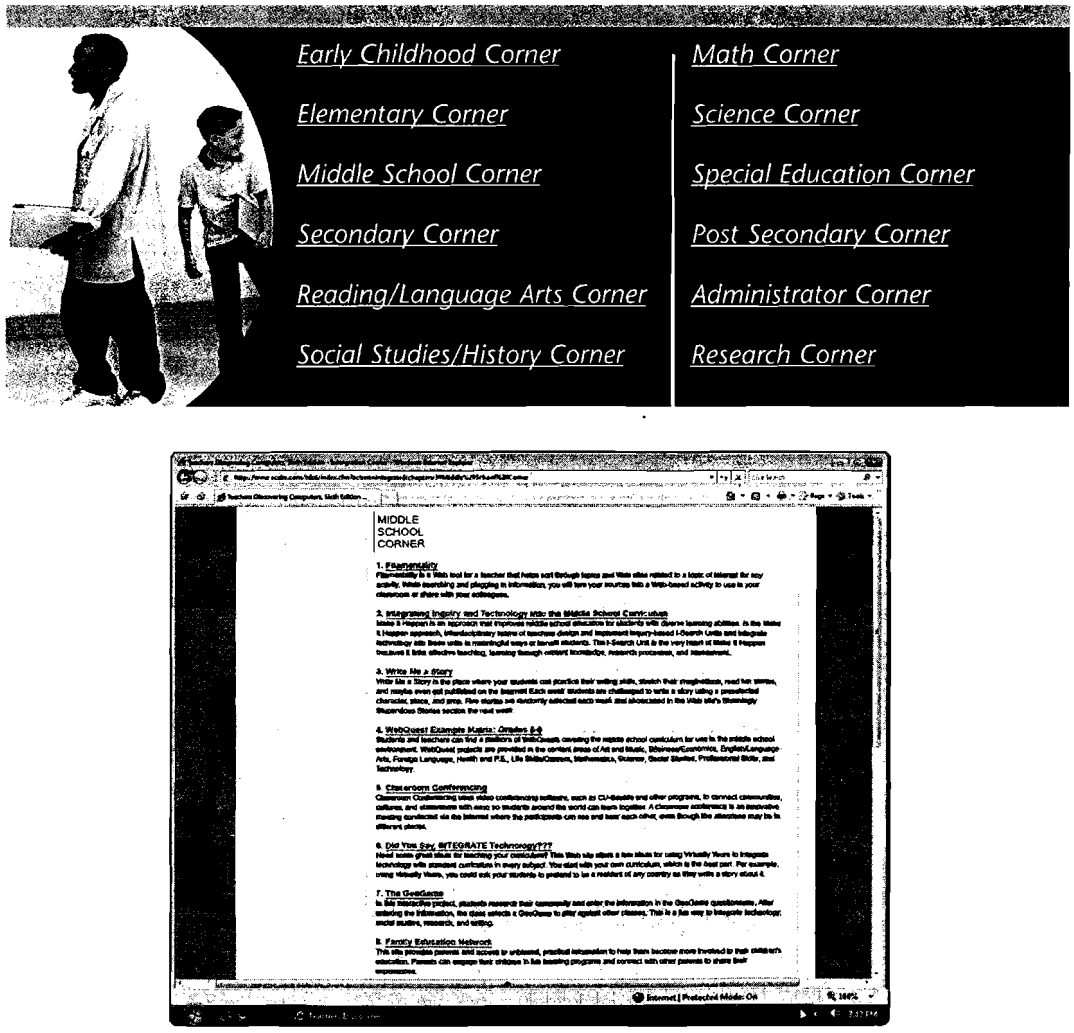


Figure 3-51 Examples of the Web resources provided in the Chapter 3 Middle School Corner.

Software Corner

Instructions: Software Corner provides information on popular software programs. Each numbered segment discusses specific software programs and contains a link to additional information about these programs. To display this page from the Web, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Software Corner on the left sidebar.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. PrimeTime Math

Teachers will find the PrimeTime Math series excellent support software for the math curriculum. PrimeTime Math engages students by providing stories about real-world professionals using math in real-life situations and includes titles like Adrift!, Cliffbound!, Fire!, Lost!, Emergency!, and Stakeout! This software meets the National Council of Teachers of Mathematics (NCTM) standards by building mathematical understanding through use of stories about crimes, medical emergencies, fires, and wilderness search and rescues, while at the same time assisting students in realizing the importance of math in the world in which they live.

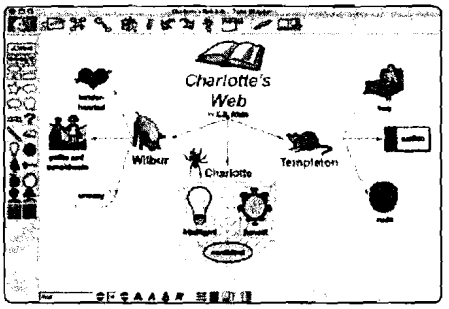
2. Adobe Photoshop Elements

Adobe Photoshop Elements allows you and your students to edit pictures from resources, such as those downloaded from digital cameras and the Internet. You can use these edited pictures to create multimedia digital projects, unique reports, personalized calendars, student bulletin boards for classroom instruction, posts to blogs, and much more. Using Adobe Photoshop Elements helps your classroom photos have a professionally finished look without a lot of hassle and the price is perfect for education!

3. Thinkology

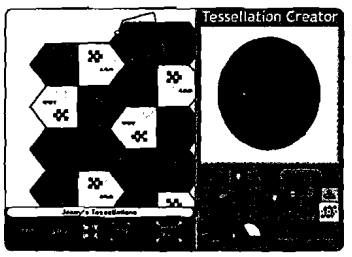
Developing students' critical thinking skills and creating learning opportunities that engage higher-order thinking skills always have been a struggle for teachers. Thinkology by Heartsoft helps K-3 students master essential critical thinking skills while having fun! Students are guided through a critical-thinking-skills journey with a cast of clever animated characters. Students learn to reason through concepts and are asked questions such as, does this make sense?

4. Kidspiration



Ever had trouble getting young learners to organize their thoughts and develop their great ideas into understandable concepts? Kidspiration is an excellent visual learning tool for teaching K-5 students to organize and express those great ideas through visual learning! Created for inexperienced readers and writers, Kidspiration helps students increase their confidence as they learn to understand concepts, organize information, write stories, and convey and share their thoughts. Brainstorming, visual mapping, thought webs, and other visual tools are used to enhance students' comprehension of concepts and information.

5. Tessellation Exploration



Do you want to make teaching tessellations to your 4th grade and up students fun and easy? One piece of software that makes the concept of tessellations easier to teach and allows students to practice is Tessellation Exploration by Tom Snyder Productions. The software includes an extensive tutorial on the concept of tessellations. Teachers can use the software as a tool to present the concept of tessellations. Next, students use Tessellation Exploration to construct their own tessellations, by selecting a base shape and moves, such as slides, flips, and turns; students watch their tessellation form before their eyes. Students can create slide shows with the tessellations or print them out.

Digital Media Corner

INSTRUCTIONS: Today's K-12 digital students need their learning to be meaningful and relevant to their lives. Digital Media Corner provides videos, ideas, and examples of how you can use digital media to enhance your teaching and your students' learning. To access the videos and links to additional information, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Digital Media Corner on the left sidebar.

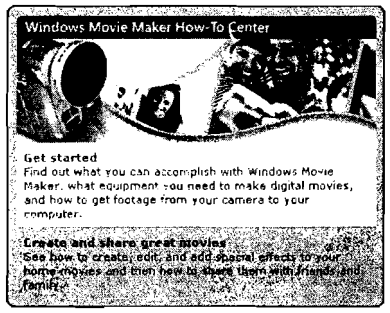
Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. Microsoft Movie Maker


Windows Movie Maker How-To Center
Get started
Find out what you can accomplish with Windows Movie Maker, what equipment you need to make digital movies, and how to get footage from your camera to your computer.
Create and share great movies
See how to create, edit, and add special effects to your home movies and then how to share them with friends and family.

Movie Maker is a free Windows-based video editing software program that provides tools you and your students can use to create, edit, and publish movies. You can edit and produce a movie from video clips, pictures, and audio files by dragging and dropping various digital media components into timelines and then adding special effects, transitions, and voice-overs. Movie Maker is a great product for creating digital storytelling projects with your students. Review this Movie Maker tutorial to learn how to create a movie that can be published in a variety of ways, including to the Web, on a CD or DVD, or downloaded to a camera for playback on a TV.

2. Microsoft Photo Story

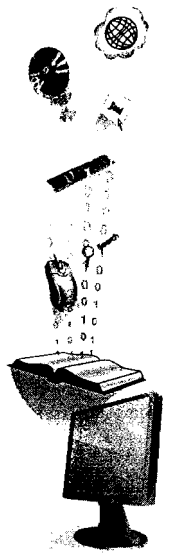


Photo Story, also a free download for Windows, brings your digital photos to life. You can add stunning special effects, soundtracks, and your own voice narrations and much more to your photos and your digital storytelling projects. You can add dramatic eye-catching special effects to your photo stories and then personalize them with titles and captions. Files can be made small so you can attach and send your stories in an e-mail, publish them on the Web, or burn them on a CD so you can watch them on any computer or Windows-based portable device. You can add enhanced photos you create in Photo Story with your own special effects and narratives to your Movie Maker videos — the two products work great together and the best part is both are free.

3. Microsoft Producer

Microsoft Producer is an add-on for Microsoft Office PowerPoint 2003 and 2007 that can help you easily capture, synchronize, and publish audio, video, slides, and images as digital media rich interactive PowerPoint presentations. Producer has content authoring features for your presentations that you and your students can easily learn to use.

4. Adobe Software

A popular digital media production software application package is Adobe Creative Suite. The Adobe Creative Suite includes the widely used image editing program Photoshop, the illustration creator Illustrator, the page publisher InDesign, Adobe Acrobat, and a number of other applications. Adobe's popularity is due in part to its high performance on both Windows and Macintosh platforms as well as its industry standard Portable Document Format or .pdf file format.

5. OneNote

Microsoft's OneNote is an easy-to-use note taking and information management program that is a natural fit for today's digital generation. You and your students can use OneNote to capture your handwritten thoughts and ideas in electronic notebooks. OneNote allows you to organize, search, and share your notes. You can share your notes, even with people who do not have OneNote. You can e-mail notes pages or publish entire notebooks to a Web site. Using a Tablet PC and OneNote, you can convert your handwritten notes to Word files. OneNote comes with a variety of templates to help you customize your pages and sections. You can choose from decorative backgrounds, watermarks, and more that you can easily customize.

Assistive Technologies Corner

INSTRUCTIONS: Assistive Technologies Corner provides information on current hardware, software, and peripherals that will assist you in delivering instruction to students with physical, cognitive, or sensory challenges. To access extensive additional information, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Assistive Technologies Corner on the left sidebar.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. Should Special Needs Software Be Available for All Teachers?

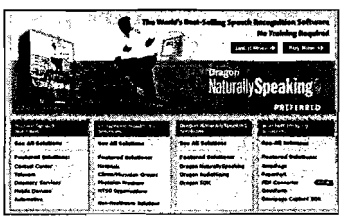
Yes! The educator's primary concern is to fit the software to the learner, and not the other way around. You can choose the appropriate assistive technology software when you consider the particular disability of the learner, the learner's strengths, and the learner's academic needs. A challenged student may need assistance with reading, or with communication, or with organizing and processing new information.

In the Chapter 1 Assistive Technologies Corner, you learned that operating systems have built-in accessibility features. Some of these features may be further enhanced with system software that affects the behavior of the computer across all other programs. You may choose to add new voices to the speech software built into the operating system of the computer or to add new large mouse pointers, for example, which will display whether your students are using Microsoft Word or Internet Explorer. To change the size of the mouse pointer in Windows Vista, click the Start button on the Windows taskbar and then click Control Panel. When the Control Panel window opens, double-click the Mouse icon or link. When the Mouse Properties dialog box opens, click the Pointer tab. Numerous mouse pointer options are available by clicking the Scheme list arrow.

2. What Is Speech Synthesis Software?

Many application tools are available to increase student productivity. Speech synthesis software allows students with speech and vocal muscle disorders to participate in classroom discussions. Students assign shortcut keys to reproduce specific, frequently used phrases. Then, they use the shortcut keys to type in a response quickly; the word processing software reads the response in a computerized voice. Students with visual impairments may use software with text enlargement features. Other helpful software applications include an on-screen talking calculator that features big, colorful number buttons and high-quality speech synthesis.

3. What Is Speech-to-Text Software?



Speech-to-text software is used by many nondisabled users to control computers and produce documents. In the classroom, this type of software assists learners with disabilities to produce a printed document. Nuance is speech-to-text dictation software for both Windows (Dragon Naturally Speaking) and Macintosh (IBM Via Voice) environments. As the student speaks, the software types. These software packages "learn" to respond to the voice of the user. iCommunicator puts the speech-to-text program in an enhanced environment that also provides sign language. Although not a substitute for a sign language interpreter, this software provides an alternative for students with unique communication challenges.

4. What Is Text-to-Speech Software?

Software programs that read text aloud are called text-to-speech software. Kurzweil is a robust system available for struggling learners. With the Kurzweil system, any text from books or documents can be scanned and read aloud to the student. In addition to this enhanced text-to-speech feature, the Kurzweil system allows students to complete tests and worksheets. A built-in word processor displays the test, and the student types in responses. In addition, many freeware and shareware text-to-speech programs are available on the Internet.

Follow the instructions at the top of this page to display additional information and this chapter's links on assistive technologies.

In the Lab

Instructions: In the Lab provides spreadsheet exercises that are divided into two areas, productivity and integration. To access the links to tutorials, productivity ideas, integration examples and ideas, and more, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click In the Lab on the left sidebar.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

PRODUCTIVITY IN THE CLASSROOM

Introduction: Spreadsheets have many uses for both students and teachers in the classroom. Spreadsheets are a great teacher productivity tool. Grade books, lesson plans, rubrics, classroom inventory, textbook inventory, and many other time-saving documents can be created in a spreadsheet. Students can creatively display data using a spreadsheet's charting feature, in addition to sorting and manipulating data, thereby using higher-order thinking skills.

Many of the productivity software suites have spreadsheet programs. Excel is a part of the Microsoft Office suite. Microsoft Works and Apple iWork also have a spreadsheet program. Lotus 1-2-3 and Quattro Pro also are popular spreadsheet programs.

Spreadsheets are not just for math class. It is possible to integrate spreadsheets effectively into many different curriculum areas in ways that excite students and empower their learning.

1. Building a Grade Book Spreadsheet

Problem: Keeping a grade book by hand can be a tedious task. To save time, you have created your grade book in a spreadsheet program so you can calculate percentages and grades quickly, as shown in Figure 3-52. Open your spreadsheet software and create the grade book as described in the following steps. Use the grade book shown in Figure 3-52 as an example. (*Hint:* Use the program's Help feature to better understand the steps. If you do not have the suggested font, use any appropriate font.)

Instructions: Perform the following tasks.

1. Use the names and numbers displayed in Figure 3-52 (cells A2:F16) to create a spreadsheet, then complete the remaining steps to format the spreadsheet.
2. Calculate the total and average for each student and for the entire class.
3. Personalize the spreadsheet title by inserting your name and curriculum area. Format the spreadsheet title in 16-point, Arial Black font and centered over columns A through H.
4. Format cells A2:H16 so they look similar to Figure 3-52. The numbers appear in the Number format with 0 decimal places.
5. Bold the Class Average label in cell A18, and then verify that the column headings in row 2 are bold and italic. Add a solid black border to the bottom of cells A18:H18.

	A	B	C	D	E	F	G	H
1	Mr. Radcliff's 4th Period Language Arts Class							
2	*Student*		*Book Report*	*Vocab Quiz*	*Poem*	*Essay*	*Total*	*Average*
3	First Name	Last Name						
4	*Jenny*	*Carlson*	98	100	100	97	395	99
5	*Leah*	*Chambers*	80	70	85	90	325	81
6	*Brittany*	*Cook*	70	80	75	75	300	75
7	*Oliver*	*Flint*	78	80	90	95	343	86
8	*Maria*	*Gomez*	94	80	85	92	351	88
9	*Ema*	*Granger*	100	90	95	100	385	96
10	*Chelsea*	*Jackson*	85	100	75	90	350	88
11	*Cho*	*Ling*	92	90	85	95	362	91
12	*Devon*	*McBride*	75	90	85	90	340	85
13	*Justin*	*Pillman*	95	100	92	95	382	96
14	*Carlos*	*Ramirez*	93	90	95	95	373	93
15	*Harry*	*Rollins*	96	90	95	100	381	95
16	*Juan*	*Sanchez*	88	80	90	85	343	86
17								
18	**Class Average**		88	88	88	92	356	89

Figure 3-52

In the Lab

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Comer
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

6. Create a custom header to show your name left-aligned, course number or title center-aligned, and the current date right-aligned.
7. Save the spreadsheet to the location of your choice using an appropriate filename.
8. Print the spreadsheet.
9. Follow directions from your instructor for turning in the assignment.

2. Building a Student Council Fund-Raiser Spreadsheet

Problem: You are the teacher sponsor of the student council at your high school. To raise money, student council members sell various items throughout the day and at special school functions. You want to see which items are the most profitable for the group and what time of day is the most successful, so you keep track of sales for four weeks. Using a spreadsheet program, prepare the spreadsheet and chart shown in Figures 3-53 and 3-54. (*Hint:* Use Help to better understand the steps. If you do not have the suggested font or color, use any appropriate font or color.)

Instructions: Perform the following tasks.

1. Create the spreadsheet shown in Figure 3-53 using the numbers as displayed.
2. Calculate the total sales for the four weeks for each period and each item.
3. Personalize the spreadsheet title by inserting the name of your school. Add a gray, solid pattern to the foreground of cells A1:E1. Format the title in row 1 as 16-point, Arial, bold, purple font and centered over columns A through E.
4. Format the subtitle, Student Council Fund-Raisers (Feb 1 – Feb 28), as 11-point, Arial, bold, black font and centered over columns A through E. Add a top and bottom border around cells A2:E2.
5. Format the remaining portion of the spreadsheet to look similar to Figure 3-53. Display the numbers using the Currency format with two decimal places.

	A	B	C	D	E
1	Ridgedale High School				
2	Student Council Fund-Raisers (Feb 1 - Feb 28)				
3	Item	Before School	Lunch	After School	Total
4	Lollipops	$100.00	$25.00	$75.00	$200.00
5	Flowers	$175.00	$250.00	$75.00	$500.00
6	Pizza	$0.00	$0.00	$550.00	$550.00
7	Pencils	$300.00	$100.00	$50.00	$450.00
8	Total	$575.00	$375.00	$750.00	$1,700.00

Figure 3-53

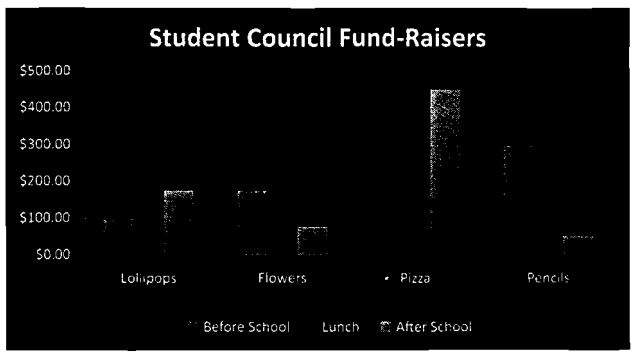


Figure 3-54

6. Create a custom header to show your name left-aligned, course number or title center-aligned, and the current date right-aligned.
7. Print the spreadsheet.
8. Create the 3D Column chart from the spreadsheet data, as shown in Figure 3-54. Add the title, Student Council Fund-Raisers, to the chart. Place the legend below the chart.
9. Apply the chart style shown in Figure 3-54. Print the 3D Column chart.

In the Lab

10. Save the spreadsheet and chart to the location of your choice using an appropriate filename.
11. Follow directions from your instructor for turning in the assignment.

INTEGRATION IN THE CLASSROOM

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. You are working on the concept of categorizing with your third-grade students. To meet state technology standards for students and to assist them with understanding this concept, you introduce spreadsheets and charts. Together with the class, you create a spreadsheet to show your students' favorite colors. You then create a 3D Column chart to show their favorite colors graphically. Create a sample spreadsheet and 3D Column chart to demonstrate the project for the students. Before submitting this assignment, include a custom header to show your name left-aligned, course number or title center-aligned, and the current date right-aligned.

2. As a part of your Health Education class, you decide to have your students keep track of the total fat grams they consume daily during breakfast, lunch, dinner, and snacks for one week. You encourage students to examine the labels on products and nutrition tables for all foods consumed, including fast food. The students will create a spreadsheet including totals for each day of the week and each meal of the week to determine which days and meals are the healthiest. The students will also include a bar chart to illustrate their data. Create a sample spreadsheet and bar chart to demonstrate the project for the students. Before submitting this assignment, include a custom header to show your name left-aligned, course number or title center-aligned, and the current date right-aligned.

3. Now that the students are aware of their total fat grams consumed, you want them to explore exercise options and burning calories. Students will select three types of aerobic exercise that they will participate in for 30 minutes, three times a week. They will need to determine how many calories each type of exercise will burn. (*Hint:* Have the students search the World Wide Web.) The students will prepare a spreadsheet to record the total minutes spent exercising weekly and chart the number of calories each type of exercise burned over a one-week period. Create a sample spreadsheet and pie chart to demonstrate the project for the students. Include a custom header to show your name left-aligned, course number or title center-aligned, and the current date right-aligned.

Learn It Online

INSTRUCTIONS: Use the Learn It Online exercises to reinforce your understanding of the chapter concepts and increase your computer, information, and integration literacy. To access dozens of interactive student labs, practice tests, learning games, and more, visit scsite.com/tdc6, click Chapter 3 at the top of the Web page, and then click Learn It Online on the left sidebar.

Exercises

Web Info
Key Terms
Checkpoint
Teaching Today
Education Issues
Integration Corner
Software Corner
Digital Media Corner
Assistive Technologies Corner
In the Lab
Learn It Online

Features

Timeline
Guide to WWW Sites
Search Tools
Buyer's Guide
State/Federal Sites
Professional Sites

1. Student Edition Labs — Databases, Presentation Software, Spreadsheets, and Word Processing

To view these interactive labs, click the Student Edition Labs link. When the Student Edition Labs menu appears, click the desired or the assigned lab to begin. A new browser window will open. Follow the on-screen instructions to complete the lab. When finished, click the Exit button. If required, submit your results to your instructor. (Note: For the labs to work properly, you must have your screen resolution set to 1024 x 768 or higher. You also will need Flash 7.0 or higher.)

2. At the Movies

Click the At the Movies — Wiki link to review a video about creating your own Wiki.

3. At the Movies

Click the At the Movies — Camtasia link to review a video about creating your own videos using Camtasia.

4. Expanding Your Understanding

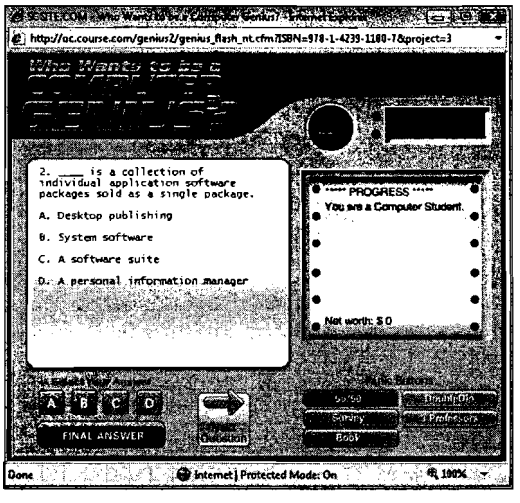
Click the Expand Your Understanding link to expand your understanding of Microsoft products and their use in K-12 classrooms. Microsoft seeks to help teachers and students use its products by maintaining an extensive array of user-friendly resources. Research this Web site and write a report summarizing your findings. If required, submit your report to your instructor.

5. Practice Test

Click the Practice Test link. Answer each question. When completed, enter your name and click the Grade Test button to submit the quiz for grading. Make a note of any missed questions. If required, submit your score to your instructor.

6. Who Wants to Be a Computer Genius?

Click the Who Wants to Be a Computer Genius link to find out if you are a computer genius. Directions about how to play the game will be displayed. When you are ready to play, click the Play button. If required, submit your score to your instructor.


Who Wants to be a
Genius
2. ____ is a collection of individual application software packages sold as a single package.
A. Desktop publishing
B. System software
C. A software suite
D. A personal information manager
PROGRESS
You are a Computer Student.
Net worth: $ 0
A B C D
FINAL ANSWER
Done
Internet | Protected Mode: On

7. Wheel of Terms

Click the Wheel of Terms link to reinforce important terms you learned in this chapter by playing the Shelly Cashman Series version of this popular game. Directions about how to play the game will be displayed. When you are ready to play, click the Play button. If required, submit your score to your instructor.

8. Crossword Puzzle Challenge

Click the Crossword Puzzle Challenge link. Complete the puzzle to reinforce skills you learned in this chapter. Directions about how to play the game will be displayed. When you are ready to play, click the Play button. If required, submit the completed puzzle to your instructor.

Special Feature: Creating Web Pages, Blogs, Wikis, and More

As you have learned so far, today's digital generation is profoundly different than the generations that preceded it. Students today crave all things digital and their world often revolves around the Web and all the wonderful digital tools and devices that they have at their fingertips.

To teach, and more importantly, to reach today's digital generation, you need to be able to integrate these new digital tools into your classroom curriculum. In this special feature, you learn about Web pages, blogs, wikis, and podcasts, as well as how to create these digital tools. In addition, you learn how to add video and audio to your creations. Finally, you learn about multimedia authoring programs, such as Camtasia Studio — one user-friendly program that you and your students can use to develop student-centered video creations.

So let's get started!

Creating a Teacher's Web Page

As you learned in Chapter 2, Web publishing is the development and maintenance of Web pages. Today, teachers and students do not have to learn programming skills to create Web pages and Web sites. Instead, user-friendly Web development programs allow teachers, students, and other users to create their own Web pages using basic word processing skills. Popular Web development tools and editors used by educators include Adobe Dreamweaver, Microsoft Publisher, WebBlender 2, Apple's iWeb (Figure 1), and Microsoft Expression Web to name just a few.

Creating well designed Web pages takes a little practice, but once you get the hang of it, it is a lot of fun. The first step is to decide what you want to publish on your Web page. If you've been teaching for any length of time, you have already collected a great deal of material. Maybe you want to publish stories your students have written, share student projects, promote the activities of an after-school club, communicate with parents, or create an electronic magazine or e-book for your grade level. Be sure to check and follow your school's and your district's policies regarding posting student work.

Whatever you want to put on your Web page, the ideas in this special feature will show you the basics of how to do it. Before you begin, however, you should plan the design of your Web pages carefully. The success of your Web pages depends not only on their content but also on their appearance. Web pages that take too long to load will turn visitors away. Web pages that are hard to navigate will frustrate visitors. Web pages with spelling and grammar errors will impact the ability of your visitors to take the content seriously. Figure 2 on the next page provides tips for designing and organizing your Web pages.

As you have learned, there are many software programs available to help you create a Web page, so you really do not need to have a

Web Info

For more information about Apple's iWeb, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click iWeb.

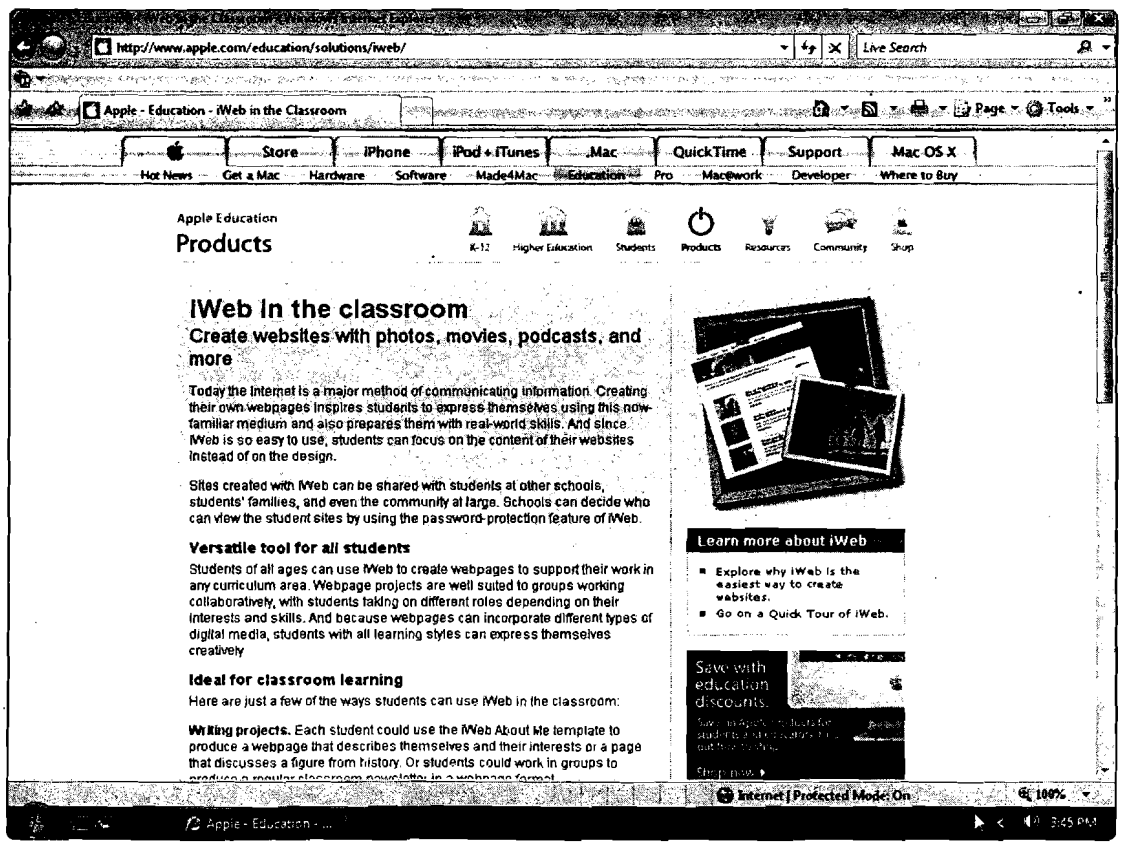

http://www.apple.com/education/solutions/iweb/
Live Search
Apple - Education - iWeb in the Classroom
Store
iPhone
iPod + iTunes
Mac
QuickTime
Support
Mac OS X
Hot News
Get a Mac
Hardware
Software
Made4Mac
Education
Pro
Macwork
Developer
Where to Buy
Apple Education
Products
K-12
Higher Education
Students
Products
Resources
Community
Shop
iWeb in the classroom
Create websites with photos, movies, podcasts, and more
Today the Internet is a major method of communicating information. Creating their own webpages inspires students to express themselves using this now-familiar medium and also prepares them with real-world skills. And since iWeb is so easy to use, students can focus on the content of their websites instead of on the design.
Sites created with iWeb can be shared with students at other schools, students' families, and even the community at large. Schools can decide who can view the student sites by using the password-protection feature of iWeb.
Versatile tool for all students
Students of all ages can use iWeb to create webpages to support their work in any curriculum area. Webpage projects are well suited to groups working collaboratively, with students taking on different roles depending on their interests and skills. And because webpages can incorporate different types of digital media, students with all learning styles can express themselves creatively
Ideal for classroom learning
Here are just a few of the ways students can use iWeb in the classroom:
Writing projects. Each student could use the iWeb About Me template to produce a webpage that describes themselves and their interests or a page that discusses a figure from history. Or students could work in groups to
Learn more about iWeb
Explore why iWeb is the easiest way to create websites.
Go on a Quick Tour of iWeb.
Save with education discounts.
Internet | Protected Mode: On
100%

Figure 1 Apple's iWeb is one of many Web development tools that teachers and students can use to create Web pages.

Tip	Details
Web pages should be easy to read.	Make sure font types and colors are easy to read. Choose your background color and designs so they work well with fonts you use and so they make the text easy to read. Avoid flashy effects since these can distract the visitor from the purpose of your Web page.
Web pages should be easy to navigate.	Navigation is very important. Be sure your links are clear to your visitors. The goal is to always keep visitors one click away from your home page. Consistently placed links, such as buttons or tabs, should be clearly labeled and easy to find. Navigation bars should appear in the same place on each Web page for ease of use. Do not underline text for emphasis because underlined text usually denotes a link.
Web pages should be well-organized.	Organization is the key to good content delivery! A well-organized Web page leads to a well-organized Web site, and that is important. Limit graphics and links per page, use only what is essential, and do not have too much white space. Messy Web pages will take away from your content instead of adding to it. Avoid lengthy, run-on content that requires visitors to scroll. If a long article is part of the Web page, provide a list of topic links at the start of the article so visitors can quickly jump to a topic of interest in the article. Also, once a visitor starts reading an article, provide links throughout the article that allow visitors to get back to the list of topic links at the beginning of the article.
Layout and design should be consistent on all Web pages in a Web site.	Consistency and unity will make your Web pages look more professional. All graphic images and elements, such as headings, theme elements, navigation elements, and so on, should remain consistent from Web page to Web page.
Web sites should be easy to locate.	Web sites are located by search engines using keywords. Usually, the developer of the Web site determines the keywords associated with the Web site — the words the search engine uses to find your site. Be sure to associate keywords visitors might use to find your Web site. Also, make your contact information easy to find on the Home page.
Graphics on Web pages should be small files.	Make sure graphics are small in file size. The larger a graphic file size, the longer it takes for the image to appear on your Web site. Readers are frustrated waiting for the graphics to load and they may not stick around long enough to see your graphics load.
Web pages should be interactive.	Good interactivity engages the user and makes your Web site memorable. Try to find ways to make the Web site engaging. Be sure to update the content often.
Web pages should be quick to download.	Studies have shown that most people lose interest in a Web site if it does not load quickly. You must include the text and graphics they want to see on the page, but remember that the more graphics you have, the longer it will take for your page to load. Also, provide a way for users to bypass the graphics.

Figure 2 Some tips for creating Web pages.

lot of technical skills to get your class Web page up and running. In fact, there are many Web sites that offer free space and make it easy for you to create customized content in a few minutes. One of these sites is called Pageflakes. By registering for an account on pageflakes.com, you can create a class page in a matter of minutes (Figure 3). Pageflakes is a user-driven way of presenting content to others online. The example in Figure 3 shows some of the things you can add to your Web pages; popular items to add include a class message board, notes concerning assignments, a class to-do list, and RSS feeds for current events, weather, and content-specific news.

With the emergence of Web 2.0 tools, an increasing amount of Web sites allow users to group, chunk, and organize bits of information to share with others. Today's digital students are accustomed to seeing information presented this way. Pageflakes is so simple to use, you can create your own Pageflakes Web page for your students in just a few minutes.

Creating Blogs

This section is about blogging and how to create classroom blogs for you and your students. Using a Web-based blogging program, like Blogger or EduBlogs, you can create a blog in minutes!

What Is a Blog?

Recall from Chapter 2 that a blog, short for Weblog, is an informal Web site consisting of time-stamped articles, or posts, in a diary or journal format, usually listed in reverse chronological order. Recall also that a blog that contains video clips is called a video blog, or vlog. Blogs can be subject specific, open to the public or private, and entertaining or educational.

Because a blog entry is like a traditional journal or diary entry, it typically includes a date, ideas on a topic of interest, and a signature. Students can use blogs to practice writing

FAQ

What is the difference between a Web site and a blog?

A blog is a Web site. Most companies view their Web sites as digital brochures. Blogs, in contrast, are dialogues between readers as each and every page or article on a blog invites and can display feedback from readers.

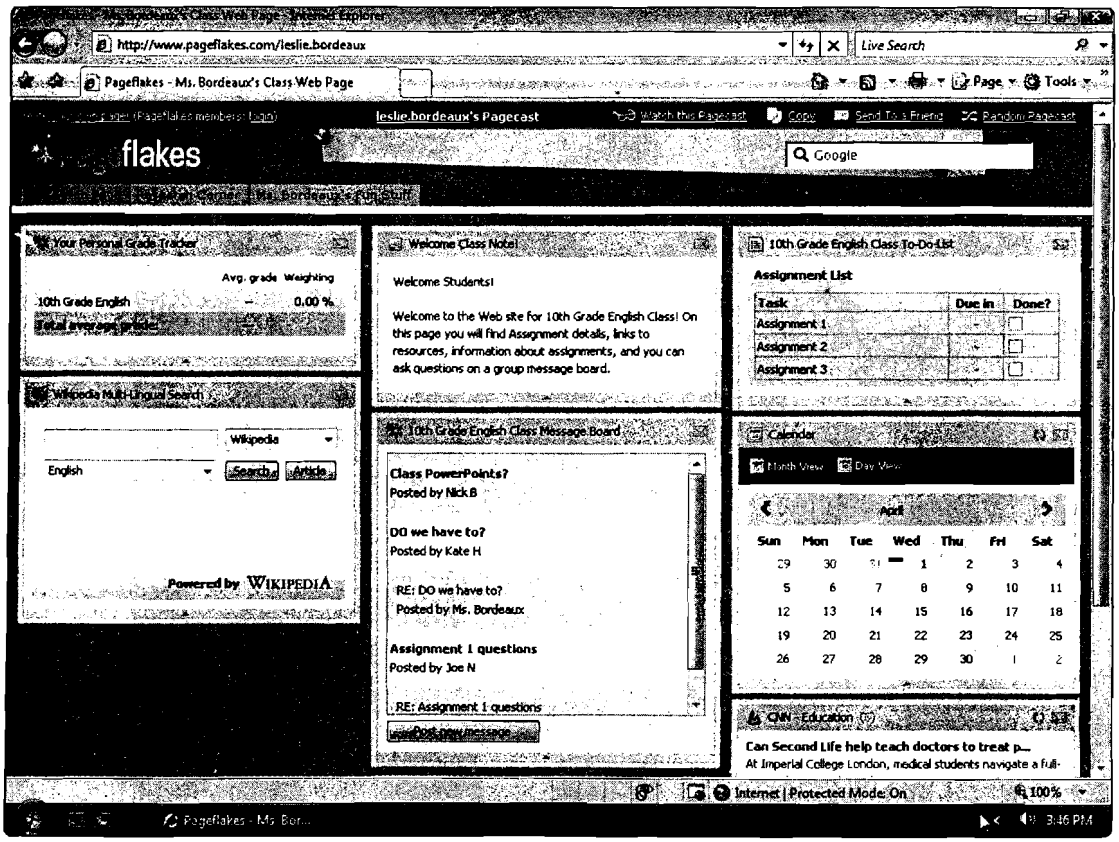
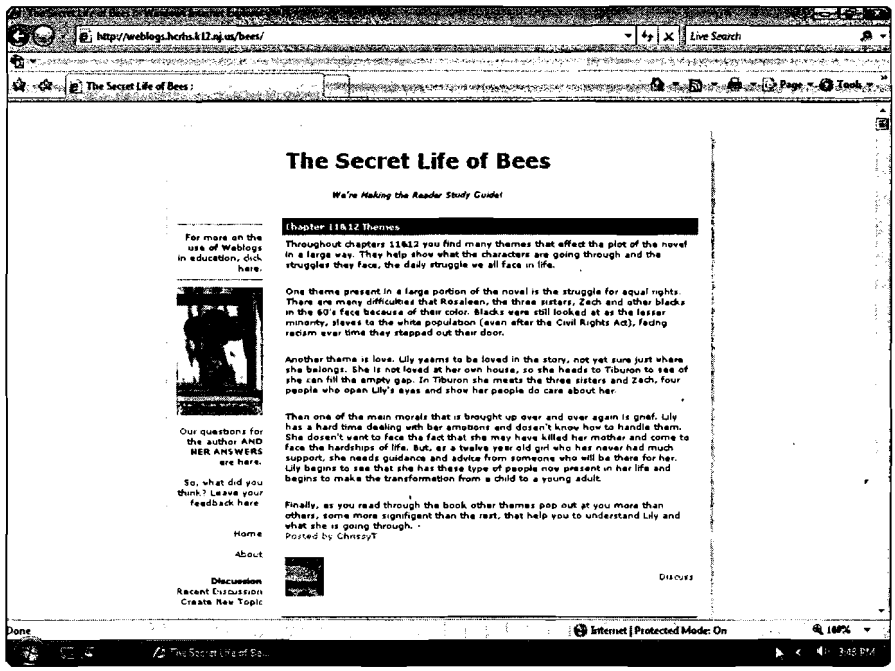


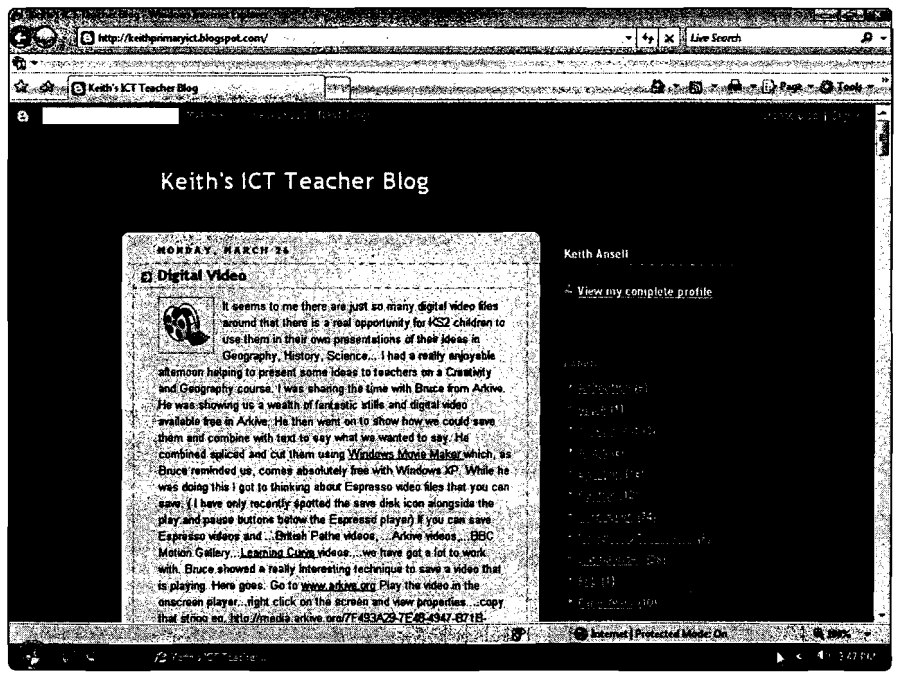
Figure 3 A teacher's Web page created using Pageflakes.

and communication skills (Figure 4a). Teachers can use them to post daily or weekly assignments, generate thoughts, stimulate classroom discussion, connect with parents, and much more (Figure 4b).

There are many sites that you can use to create blogs similar to the ones shown in Figure 4. Best of all, blogs are easy to create and maintain! To watch a video with step-by-step instructions for creating a classroom blog using a popular blog tool, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, and then click Chapter 3 Special Feature.


The Secret Life of Bees
We're Making the Reader Study Guide!
Chapter 11&12 Themes
Throughout chapters 11&12 you find many themes that effect the plot of the novel in a large way. They help show what the characters are going through and the struggles they face, the daily struggle we all face in life.
One theme present in a large portion of the novel is the struggle for equal rights. There are many difficulties that Rosaleen, the three sisters, Zach and other blacks in the 60's face because of their color. Blacks were still looked at as the lesser minority, slaves to the white population (even after the Civil Rights Act), facing racism ever time they stepped out their door.
Another theme is love. Lily seems to be loved in the story, not yet sure just where she belongs. She is not loved at her own house, so she heads to Tiburon to see of she can fill the empty gap. In Tiburon she meets the three sisters and Zach, four people who open Lily's eyes and show her people do care about her.
Then one of the main morals that is brought up over and over again is grief. Lily has a hard time dealing with her emotions and doesn't know how to handle them. She doesn't want to face the fact that she may have killed her mother and come to face the hardships of life. But, as a twelve year old girl who has never had much support, she needs guidance and advice from someone who will be there for her. Lily begins to see that she has these type of people now present in her life and begins to make the transformation from a child to a young adult.
Finally, as you read through the book other themes pop out at you more than others, some more significant than the rest, that help you to understand Lily and what she is going through.
Posted by ChrissyT
For more on the use of Weblogs in education, click here.
Our questions for the author AND HER ANSWERS are here.
So, what did you think? Leave your feedback here
Home
About
Discussion
Recent Discussion
Create New Topic
Discuss
Done
Internet | Protected Mode: On

[a]


Keith's ICT Teacher Blog
MONDAY, MARCH 26
Digital Video
It seems to me there are just so many digital video files around that there is a real opportunity for KS2 children to use them in their own presentations of their ideas in Geography, History, Science... I had a really enjoyable afternoon helping to present some ideas to teachers on a Creativity and Geography course. I was sharing the time with Bruce from Arkive. He was showing us a wealth of fantastic stills and digital video available free in Arkive. He then went on to show how we could save them and combine with text to say what we wanted to say. He combined spliced and cut them using Windows Movie Maker which, as Bruce reminded us, comes absolutely free with Windows XP. While he was doing this I got to thinking about Espresso video files that you can save. (I have only recently spotted the save disk icon alongside the play and pause buttons below the Espresso player) If you can save Espresso videos and ...British Pathe videos, ...Arkive videos, ...BBC Motion Gallery, ...Learning Curve videos...we have got a lot to work with. Bruce showed a really interesting technique to save a video that is playing. Here goes: Go to www.arkive.org Play the video in the onscreen player...right click on the screen and view properties ...copy that stream so, http://media.arkive.org/7F493A29-7E48-4947-871B-
Keith Ansell
View my complete profile
Internet | Protected Mode: On

[b]

Figure 4 Figure 4a shows a teacher-directed student blog and Figure 4b shows a teacher's blog.

In addition, you can easily post blogs and create your own classroom blog using Microsoft Word 2007.

Blogging and Word 2007

Using Word 2007 to post, that is to upload, a blog post is a simple process. When you click the Office button and then click New in Word 2007, a New Document dialog box is displayed (Figure 5). Notice that Word defaults to two options that you can create, a Blank document or a New blog post. To open a New blog post document, double-click the New blog post icon. Word 2007 opens a new blog post document window and displays the Register a Blog Account dialog box (see Figure 6 on the next page). You then register or select your blog account, create your blog post in Word, and then click the Publish button to automatically post your blog. If you choose to register later, you will be prompted to register before you can publish your blog. Do not forget to register and fix your spelling errors before posting your blog.

Your blog post can contain links, graphics, photos, and much more. In addition to posting blogs, you also can create a new blog site, such as a classroom blog site, using Word 2007. You register your classroom blog site using the Register a Blog Account dialog box (see Figure 6) in much the same way you register a blog post. You can use the free hosting service provided by Microsoft or you can select a different blog hosting site from a list (see Figure 7 on the next page).

To watch a video with step-by-step instructions for posting a blog or creating your classroom blog using Microsoft Word 2007, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, and then click Chapter 3 Special Feature.

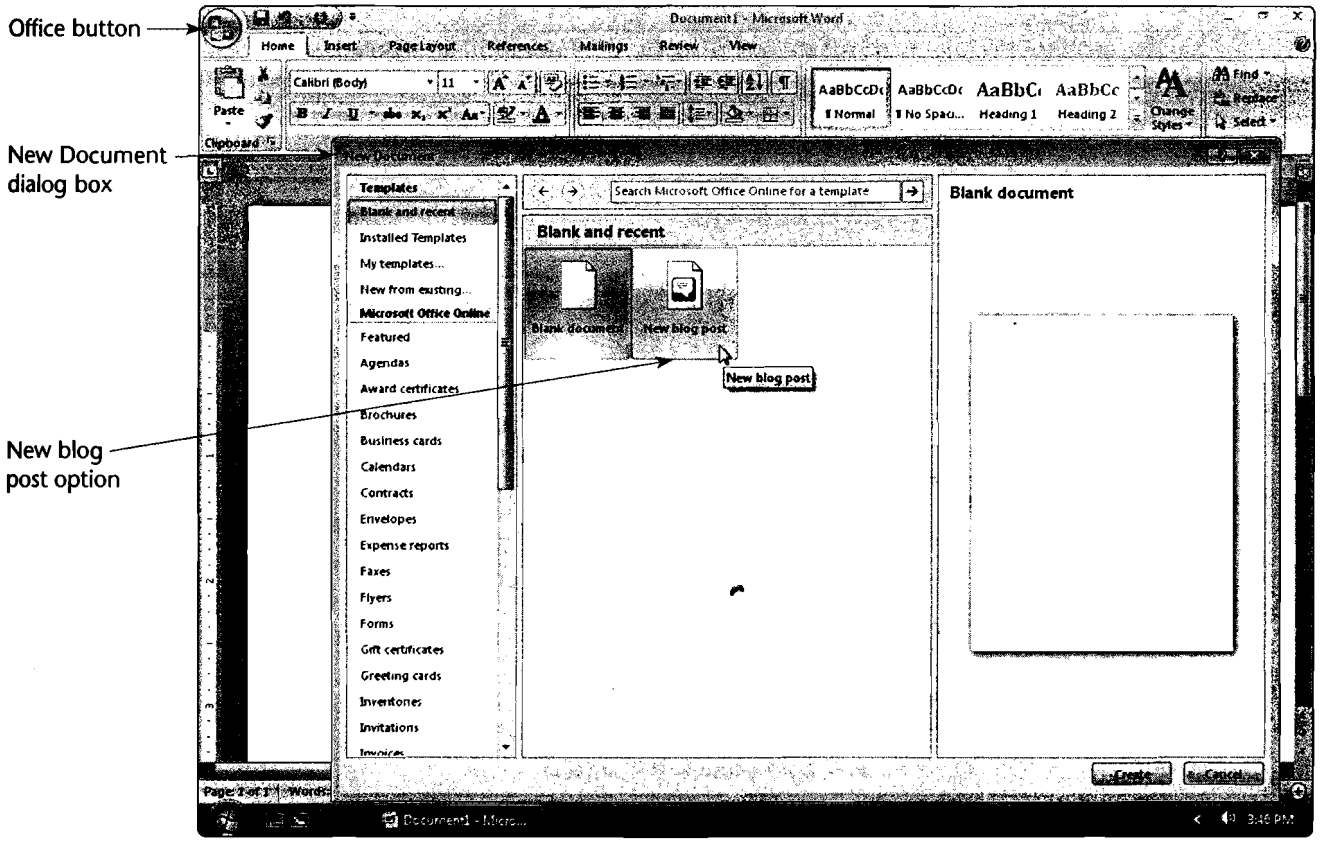


Figure 5 Word 2007 allows you and your students to easily and quickly create a blog post.

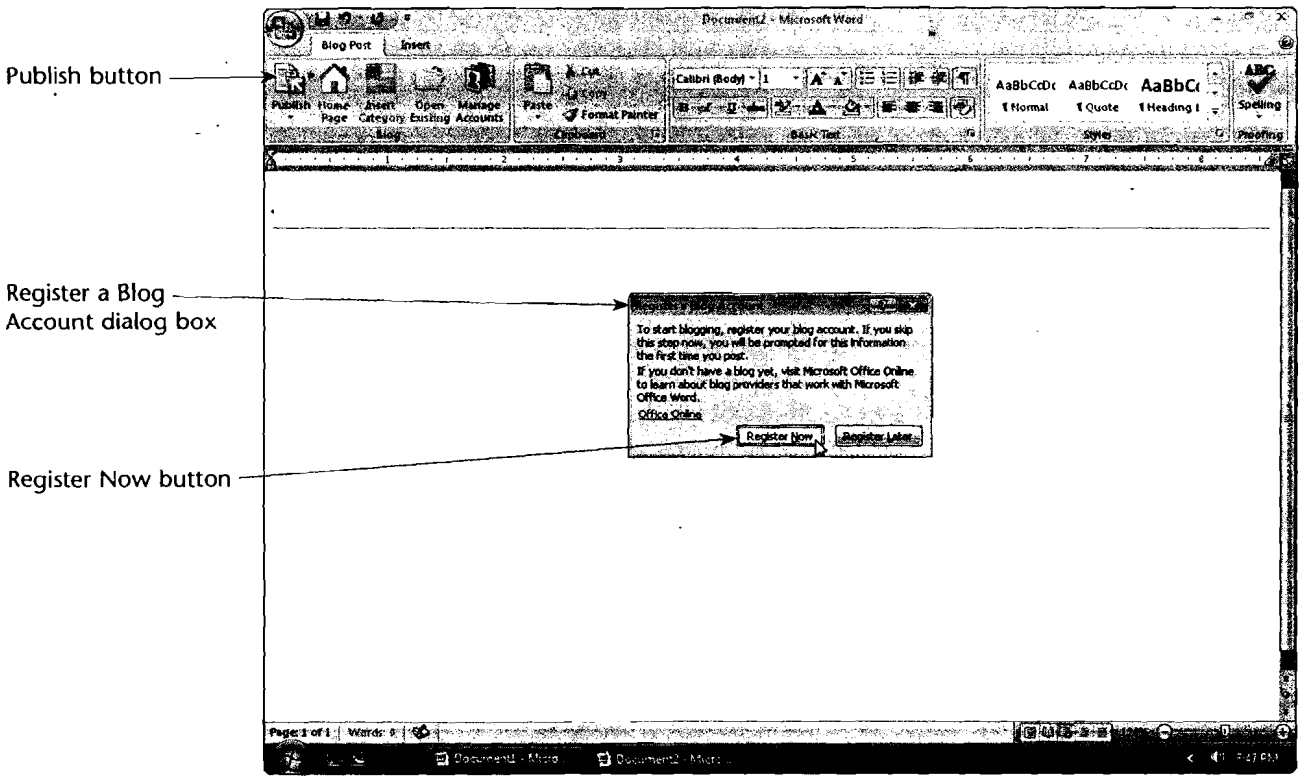


Figure 6 Word creates a new blog post document and displays a dialog box that lets you register the blog to an account of your choice so you can start blogging.

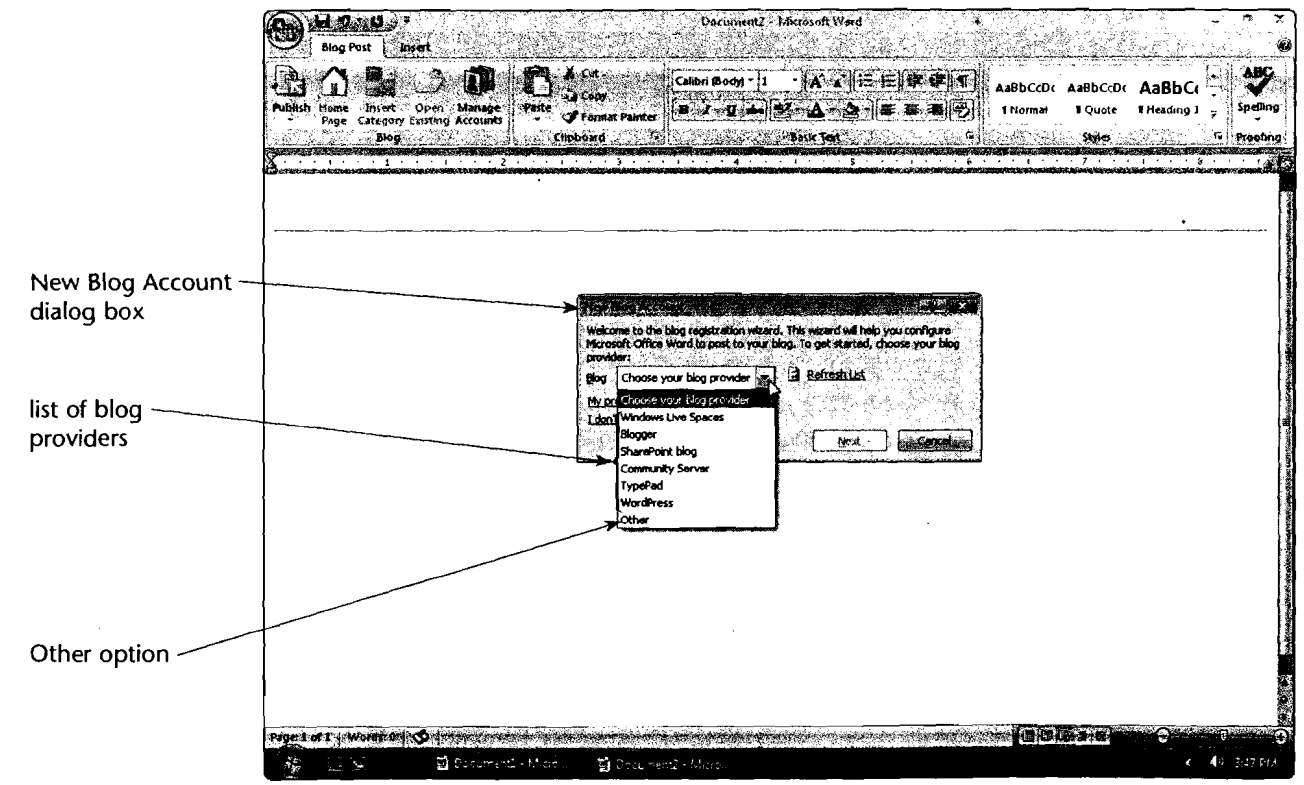


Figure 7 The New Blog Account dialog box provides links to popular blog hosting sites, where you can register your blog. Use the Other option to register with a blog provider that is not listed.

Benefits of Using Blogs in Education

There are many benefits to using classroom blogs with your students. In short, blogs can bring today's students into the world of writing and many other curriculum areas. Below are just some of the many benefits of classroom blogging. Using blogs, your students can:

- keep a diary on their reading, projects, or classroom discussions
- embed links in their blogs as they research subjects and then report on their findings
- keep track of project-related tasks that need to be completed
- write up their findings on scientific experiments daily
- copy and paste ideas or quotes from other sources, making sure to quote or link to their source, and then personally reflect on the topic
- create cross-classroom prompts, thus being part of a network of readers and writers
- create classroom storyboards with ongoing storytelling
- log chronological events for social studies and research projects
- learn math and mentor other students having difficulties with math concepts and assignments
- ask others, such as friends, family members, librarians, and even local business professionals, to edit their blogs, or provide feedback

Learning More about Blogging

Blogging is exciting. You can use blogging to engage your digital students in powerful learning activities using the Web-based tools, such as Blogger, that they relate to. Figure 8 lists additional resources that you can use to review examples of blogs, to learn more about blogging, and to help you in your blogging adventure.

Blogging Do's

Blogging, like many other technologies you use and integrate into the curriculum, has some risks. Although you cannot review all blog entries before they are published, you can take steps to lessen the risks of inappropriate entries.

- Do know your school and district Acceptable Use Policies (AUPs) and convey them to your students.
- Do get parental permission before allowing students to blog if blogging is not part of your school's Acceptable Use Policy (AUP).
- Do avoid blogging sites that require students to include their full names or e-mail addresses.
- Do avoid sites that request personal information from students.
- Do review what is permissible and appropriate with your students.
- Do remind students of the importance of netiquette and being respectful.

Web Info

For more information about the benefits of using classroom blogs, visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, click Web Info, and then click Benefits of Blogging.

BLOG	URL
Blog.com	blog.com
Blogger	blogger.com
Blogstream	blogstream.com
EduBlogs.com	www.edublogs.com/
Google Blog Search	blogsearch.google.com/
TypePad	www.typepad.com/
Weblogg-ed	www.weblogg-ed.com/
Windows Live Spaces	spaces.live.com/
WordPress	wordpress.org/
WordPress	http://en.wordpress.org/tools/

To see an updated list with links to these and other blog sites, visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, and then click Chapter 3 Special Feature.

Figure 8 Popular blog sites.

- Do have rules of appropriate behavior and consequences of misbehavior.
- Do provide examples of model blogs for students to review.
- Do remind your students that blogging is a privilege and appropriate behavior will ensure continued use.
- Do find out if your school district allows teachers to create classroom blogs that reside on the school or district server, which, in turn can be evaluated in a safe environment using peer evaluation.

Creating a Wiki

In this section, you learn about wikis, how to create a wiki, and how to use wikis with your students.

What Is a Wiki?

Recall from Chapter 2 that a **wiki** is a collaborative Web site that allows users to create, add to, modify, or delete the Web site content via their Web browser. Most wikis are open to modification by anyone, and wikis are especially suited for collaborative writing. Wikis also allow for linking among any number of pages. This ease of interaction and operation makes a wiki a great tool for group authoring — a powerful tool for use in teaching students team work, writing skills, and so much more.

The term wiki also can refer to the collaborative software itself, called a **wiki engine**, which facilitates the operation of wiki sites. A popular online wiki is Wikipedia (Figure 9). A **single page** in a wiki is referred to as a wiki page, while the entire body of pages, which are usually highly interconnected via hyperlinks, is the wiki. A wiki is actually a very simple, easy-to-use, user-maintained database for creating, browsing, and searching for information. The bottom line about wikis is that anyone can edit anything at anytime and add to the content of a wiki.

FAQ

What is the difference between a Web site and a wiki?

A **wiki** is a Web site, but it is one that allows visitors to add, remove, edit, and change content. Most non-wiki Web sites can only be changed by the site developers.

Create Your Own Wiki

Creating your own wiki is as easy as 1-2-3! Wikis are fun, engaging, and powerful teaching and learning tools! There are numerous Web sites that will walk you through creating a wiki and will even host your wiki for free. In fact, numerous wiki sites are dedicated to helping

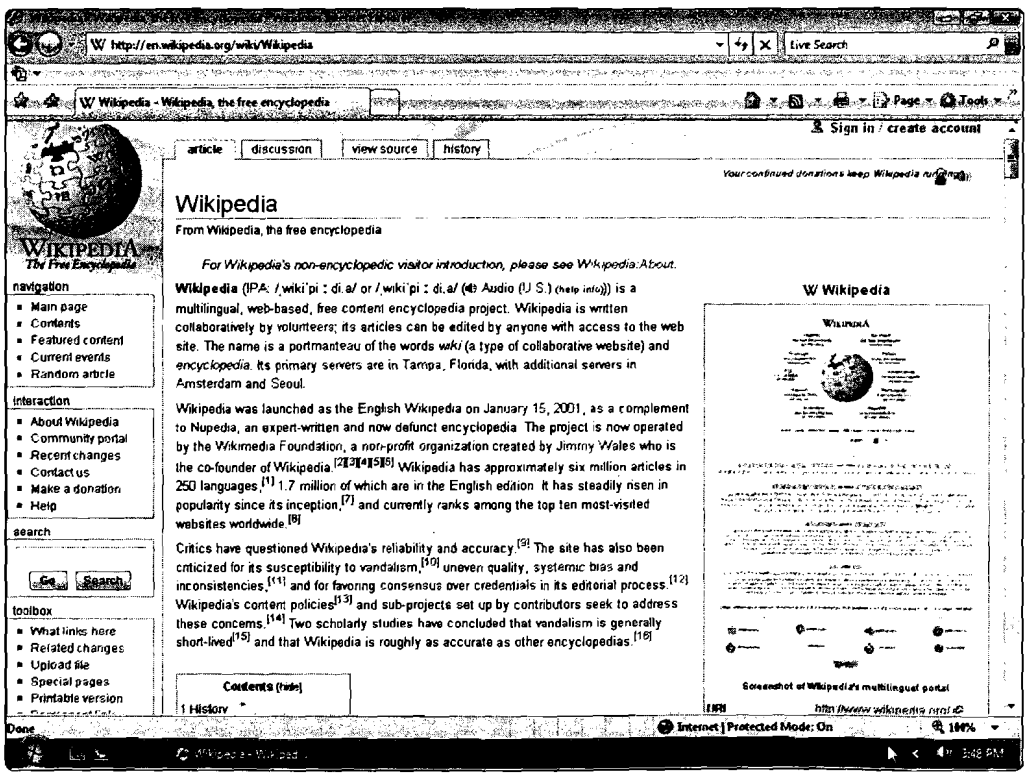


Figure 9 Wikipedia is a free encyclopedia used daily by millions of people.

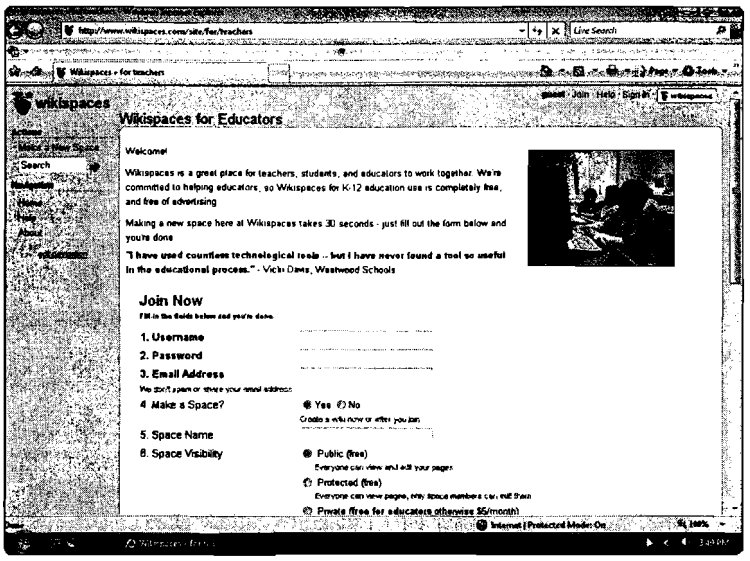


Figure 10 Wikispaces is a popular site for creating classroom wikis.

teachers and students create their own wikis (Figure 10 above). To watch a video with step-by-step instructions for creating your own wiki, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, and then click Chapter 3 Special Feature. Figure 11 lists popular wiki creation sites and sample classroom wikis.

Wiki Tools	URL
MediaWiki	www.mediawiki.org/wiki/MediaWiki
PBworks	pbworks.com/edu.html
Scribe Post Hall of Fame	thescribepost.pbworks.com
Wikia	www.wikia.com
Wiki Search Engine	www.wiki.com
Wikispaces	www.wikispaces.com
Sample Education Wikis	**URL**
8th Grade Social Studies Wiki	http://gps8socialstudies.pbwiki.com/
1st Year Spanish Wiki	www.mylanguageteacher.com/wiki/index.php?title=Main_Page
High School Online Collaborative Writing	schools.wikia.com/wiki/Main_Page
Kindergarten Science Wiki	mendonkoom.wikispaces.com
Tim Fredrick's ELA Teaching Wiki	timfredrick.pbworks.com/
Note: Visit the Teachers Discovering Computers Web site (scsite.com/tdc6), click Chapter 3, and then click Chapter 3 Special Feature for links to these and other wiki sites listed in this table.	

Figure 11 Popular wiki tools and sample education wikis.

Wiki Uses

The following are just a few of the many ways that wikis can be used in education:

- to help create an easy, simple student-centered Web site
- to facilitate group authoring and collaboration
- as a repository for content, which can be viewed at any time from any place with an Internet connection by any student in your class
- to provide storage for data collection, which can be accessed as needed
- to display student projects
- to provide a vehicle for sharing reviews
- to share presentations, which students can view again for clarification or for the first time if they missed the class when a presentation was made

Wiki Strategies

The following provide a few strategies that you and your students can implement when using wikis.

To Promote Reading Skills

- Have students check the wiki history! They can tell how active a particular wiki is by clicking the recent or history links. Remind students, however, that more activity does not equate to better quality.
- Have students read reviews of the wiki to get a sense of who has used the wiki and their reactions to it.
- Encourage students to read a wiki and think critically about what they just read. Have students decide if what they read is fact or opinion, and how they might determine which it is if they don't know for sure.
- Invite students to research facts they read in a wiki. Remind students that just because something is on the Internet does not mean it is correct. Tell students they must verify what they read, especially when they read it in wikis.

To Promote Writing Skills

- Tell students that if they know something that is not included, they could add it!
- Tell students if they see something wrong, they should fix it!
- Remind students to provide sources for facts they add to a wiki and always to use proper spelling and grammar.

Wiki Challenges for Educators

Because of how open most wikis are, some educators find them unsuitable for education. Critics agree that a wiki's strength, the fact that anyone can post or edit a listing, is also its greatest weakness. Wikipedia material can be written or edited by just about anyone, regardless of his or her level of subject matter expertise. In most cases, Wikipedia authors do not have to submit any identifying information. This lack of accountability has led the creators of Wikipedia to create Citizendium (Figure 12).

Citizendium has the same functionality of Wikipedia. Authors are still able to edit, delete, or modify content that has been placed on the site. The main difference between Citizendium and Wikipedia is that Citizendium requires authors to register their names and affiliation before editing any information. Citizendium also has subject matter experts from academia and private industry, who are content editors. By including an authoritative presence, an increase in the credibility of the information cited in wikis is expected.

One final note when using and creating wikis is to evaluate wiki hosting sites carefully before making a decision. Some free wiki hosting sites require banner ads to be placed on your wiki, which, in most cases, are not appropriate for wikis you create for use with your students.

Web Info

For more information about Citizendium, visit the Teachers Discovering Computers Web site (scsite.com/tdc), click Chapter 3, click Web Info, and then click Citizendium.

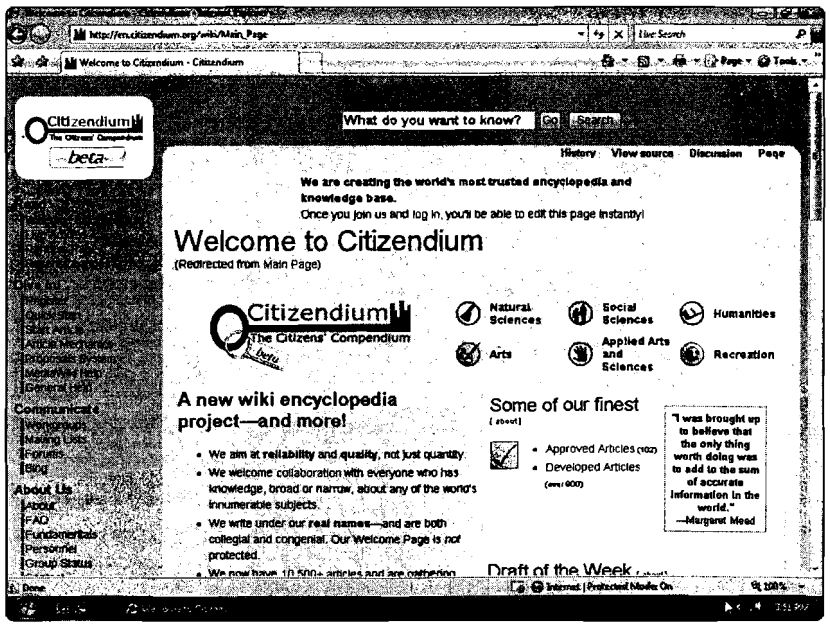

Welcome to Citizendium - Citizendium
Citizendium
beta
What do you want to know?
Go
Search
History
View source
Discussion
Page
We are creating the world's most trusted encyclopedia and knowledge base.
Once you join us and log in, you'll be able to edit this page instantly!
Welcome to Citizendium
(Redirected from Main Page)
Citizendium
The Citizens' Compendium
beta
Natural Sciences
Social Sciences
Humanities
Arts
Applied Arts and Sciences
Recreation
A new wiki encyclopedia project—and more!
We aim at reliability and quality, not just quantity.
We welcome collaboration with everyone who has knowledge, broad or narrow, about any of the world's innumerable subjects.
We write under our real names—and are both collegial and congenial. Our Welcome Page is not protected.
Some of our finest
Approved Articles
Developed Articles
"I was brought up to believe that the only thing worth doing was to add to the sum of accurate information in the world."
—Margaret Mead
Draft of the Week

Figure 12 A wiki site started by the creators of Wikipedia.

Creating a Podcast

The term podcast is derived from Apple's portable music player, the iPod (Figure 13). Podcasts are a popular way people share information on the Web verbally. A podcast is recorded audio stored in a file on a Web site. The host or author of a podcast is often called a podcaster. A video podcast, or vodcast, is a podcast that contains video and usually audio. A podcast can be downloaded to a computer or a portable media player, such as a Zune or an iPod. Basically a podcast is an Internet-based radio show. The term podcast refers to the content; the term podcasting refers to downloading or uploading a podcast.

A podcast is distinguished from other digital media formats by its ability to be downloaded automatically, using software capable of reading feed formats, such as RSS or Atom, and programs called feed readers or aggregators. Users subscribe to a feed by supplying a link to the feed. The reader program can then check the user's subscribed feeds to see if any of those feeds have new content since the last time it checked, and if so, retrieve that content and present it to the user.

At a convenient time and location, the user listens to the downloaded podcast or watches the downloaded vodcast. Examples of podcasts include music, radio shows, news stories, classroom lectures, political messages, and television commentaries. Some Web sites, such as the popular podcast.com, specialize in podcast distribution. Others, such as National Public Radio (Figure 14), have incorporated a podcast component in their existing Web site.

To create a podcast, you need a computer with a microphone to capture the audio input, software that allows you to export the audio file in the MP3 file format, software that lets you create an RSS feed, and a site to upload your podcast to. Once you have recorded and exported your podcast in the MP3 file format, you are ready to create your RSS feed and then upload your podcast to a server for others to download and listen to. Be sure to add tags to your file. The tags will be used by search engines to find your podcast. Finally, you want to be sure to submit your podcast with its tags to a search engine so that others will find your podcast when searching the Internet.

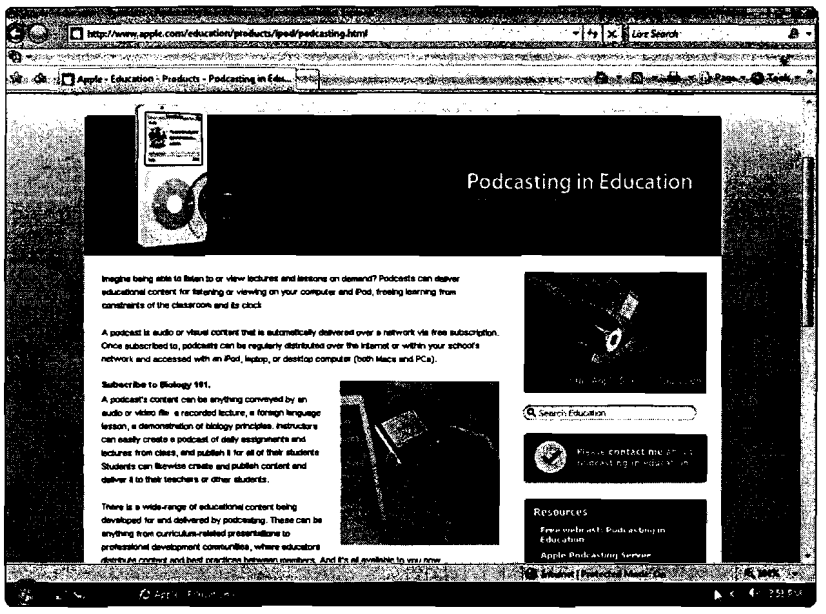


Figure 13 Apple's iPod is used by millions of digital students to listen to music and podcasts.

Figure 14 National Public Radio is just one of thousands of Web sites that provide podcasts and vodcasts for their users on a variety of topics.

There are many sites devoted to podcasting. One to consider that can help you create podcasts is podcast.com, which allows you to record, publish, and upload your podcast directly from the Web site.

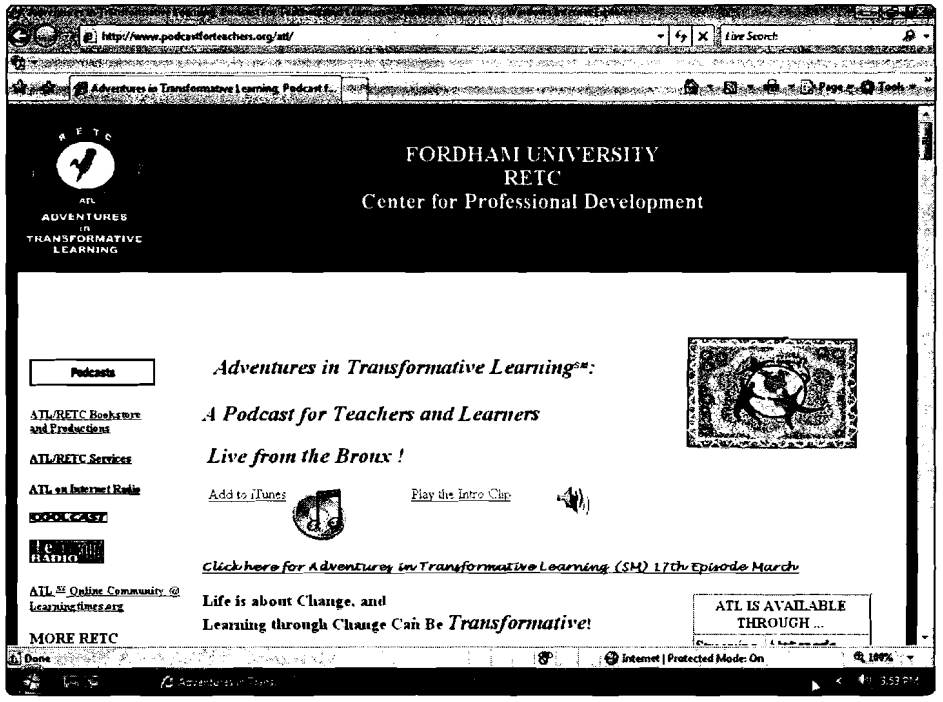
Web Info

For more information on how to create a podcast for an Apple iPod, visit the Teachers Discovering Computers Web site (scsite.com/tdc), click Chapter 3, click Web Info, and then click the Podcasting link.

Implications for Education

Podcasting is a Web 2.0 tool that is quickly becoming popular in education and already is popular with your digital students. Podcasts enable students and teachers to share all kinds of information with anyone at anytime. In education, podcasts typically are produced (1) by students for use by other students or their friends; (2) by teachers for use by their students; and (3) by universities, corporations, education consortiums, and the government to provide resources and professional development for teachers and students (Figure 15).

[a]



[b]

Figure 15 Figure 15a shows links to education podcasts developed, produced, and hosted by Fordham University's Regional Educational Technology Center. Figure 15b shows links to education podcasts in iTunes.

Podcast Sites	URL
Apple Podcasting	www.apple.com/education/teachers-professors/mobile-learning.html
[illegible] Podcast Sites	[illegible]
Education and Professional Podcast Directory	www.learnoutloud.com/Podcast-Directory/Education-and-Professional
[illegible]	[illegible]
Fordham University	www.podcastforteachers.org/atl/
[illegible] Podcast Repository	[illegible]
Transformation Education	teacherspodcast.org
[illegible]	[illegible]
Yahoo Education Podcasting	groups.yahoo.com/group/Podcasting-Education/
[illegible]	[illegible]

Figure 16 Popular podcast sites.

You can create podcasts of a lesson or a block of instruction and, if a student is absent, he or she can download the podcast of the recorded lesson. Teachers or administrators can create podcasts to communicate curriculum, assignments, sample tests, and other information to parents. Using podcasts, teachers and students can create book talks, vocabulary or foreign language lessons, international pen pal letters (podcast pals!), music performances, interviews, student presentations, debates, and so many other things — the uses are limitless.

To watch a video with step-by-step instructions for creating a classroom podcast, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, and then click Chapter 3 Special Feature. To help you learn more about podcasts, refer to Figure 16 above, which lists a number of popular podcast sites and education information podcast sites.

Multimedia Authoring Software

In the previous sections, you learned about creating Web pages, blogs, wikis, and podcasts. In this section, you learn about an exciting and easy to use multimedia authoring software program.

As you have already learned, multimedia authoring software is used to create electronic presentations, simulations, and software demonstrations that can include text, graphics, video, audio, animation, and screen captures. Some of these software programs, sometimes called video editing programs, are free and others must be purchased. Many of these software programs are covered in other parts of this textbook, especially in the Digital Media and Software Corners that follow each chapter. In this section, you learn about one of these programs that is already being used extensively in higher education and is becoming more and more popular in K-12 education, Camtasia Studio.

A number of software programs help teachers and students easily create video screencasts and then add enhancements like Webcam videos and music tracks. A screencast is a digital recording of a computer's screen output, often containing audio. Just as a screenshot is a picture of a computer screen, a screencast is a movie of what a user sees on the monitor. For example, you can use a program like Camtasia Studio to record anything you do on your computer, including mouse movements, which allows you to show students how to use Inspiration, demonstrate how to do Web searching, and more. The following are just some of the ways you and your students can

Web Info

For more information and links to over 20 multimedia authoring software programs, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click Multimedia Authoring Software

use screencasts as digital representations of traditional printed materials:

- create digital student-centered and student-created tutorials
- teach lessons using PowerPoint presentations with voice-over and digital enhancements so the presentation becomes a video presentation
- develop short how-to-do videos and video-based, narrated demonstration
- create digital storytelling projects
- provide digital reviews of software, rubrics, classroom rules, school policies, and so on
- present an explanation of detailed content-specific materials that students can watch over and over again from any place using a variety of media devices
- create animated whiteboard-type presentations

Camtasia Studio

Camtasia Studio (Figure 17) is a powerful, yet easy to use solution for you and your students to record, edit, and share high-quality instructional videos, student-created video-based projects, and more on the Web, via CDs, via DVDs, and via portable media players, including iPods. Camtasia provides many powerful features, including the following:

- Use the Record the Screen feature in Camtasia to record your screencast and include audio (music and/or narration) if desired. You even can record yourself along with the screen video using an inexpensive Webcam and display yourself as a picture in a picture.
- Use the Record PowerPoint feature to create a narrated presentation literally with two clicks of your mouse. To stop the recording, you press the Esc key on your keyboard, save the file as you would any file, edit the video if necessary, and then produce the video as learning supplements for your students.
- Use Camtasia to create a podcast or vodcast. For example, you can create an audio podcast using your computer's microphone or an inexpensive USB microphone. You can edit your podcast if necessary, and then produce and upload your podcast. You can even upload your podcast using Camtasia's hosting service, Screencast.com.

Figure 17 Camtasia Studio allows teachers and students to easily create all types of screencasts and videos.

Camtasia Studio makes it easy to produce and distribute your videos in a number of different formats (see Figure 18). Your students can view your videos and their videos truly anytime and anyplace, using the following ways:

- on any computer using the storage medium on which the video is stored, such as the hard drive, a USB flash drive, a CD, or a DVD
- streaming from the Web; even users that have dial up access can view your videos if you save them as Flash (.swf) files, which are significantly smaller than other video formats
- on any TV using a DVD player, a portable media player such as an iPod connected to the TV, or wirelessly from your PC, Macintosh computer, or portable media player using Apple TV or similar device connected to a TV
- on portable video media players, such as a video iPod or Zune, which allows students to watch your videos on the bus, during lunch, after school, or for that matter from just about any location and at anytime they choose

To watch a video with step-by-step instructions for creating and distributing a Camtasia video, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, and then click Chapter 3 Special Feature.

Camtasia Studio is one example (there are many others) of new or recently updated software programs that allow you to easily and quickly create and distribute true digital instructional solutions to meet the needs of today's digital generation.

Web Info

For more information on Camtasia Studio, including how to download a 30 day free trial, visit the Teachers Discovering Computers Web site (*scsite.com/tdc6*), click Chapter 3, click Web Info, and then click Creating and Distributing a Camtasia Video

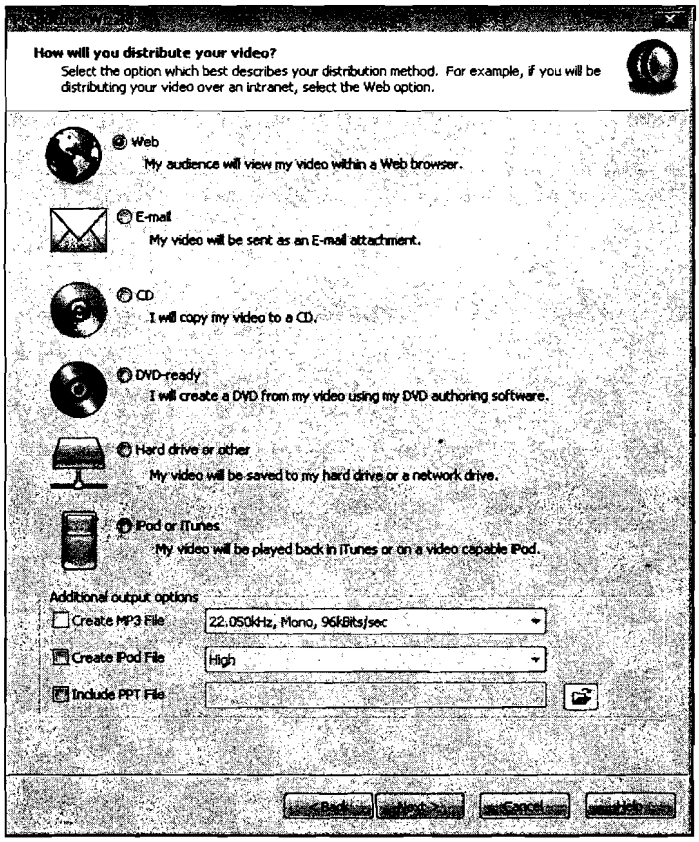

How will you distribute your video?
Select the option which best describes your distribution method. For example, if you will be distributing your video over an intranet, select the Web option.
Web
My audience will view my video within a Web browser.
E-mail
My video will be sent as an E-mail attachment.
CD
I will copy my video to a CD.
DVD-ready
I will create a DVD from my video using my DVD authoring software.
Hard drive or other
My video will be saved to my hard drive or a network drive.
iPod or iTunes
My video will be played back in iTunes or on a video capable iPod.
Additional output options
Create MP3 File
22.050kHz, Mono, 96kBits/sec
Create iPod File
High
Include PPT File
<Back
Next>
Cancel
Help

Figure 18 Using the Camtasia Production Wizard, you can produce and distribute your videos in a number of different formats.

Summary and Implications for Education

Today's digital generation crave all things digital, not traditional instructional materials printed on paper. Recent Web developments that allow students to view videos from any place and any time and easy-to-use programs like Camtasia have the potential to impact education in many positive ways; most importantly, these newer technologies allow teachers to teach today's digital students more effectively. These tools and developments can help you not just teach, but reach today's students in ways only dreamed of just a few years ago.

In this special feature, you not only learned about but also how to create Web pages, blogs, wikis, podcasts, and screencasts that you can use with your students. You will learn more about these tools and how to integrate them into your curriculum in the special feature that follows Chapter 7, *Integrating Web Sites, Blogs, Wikis, and More.*